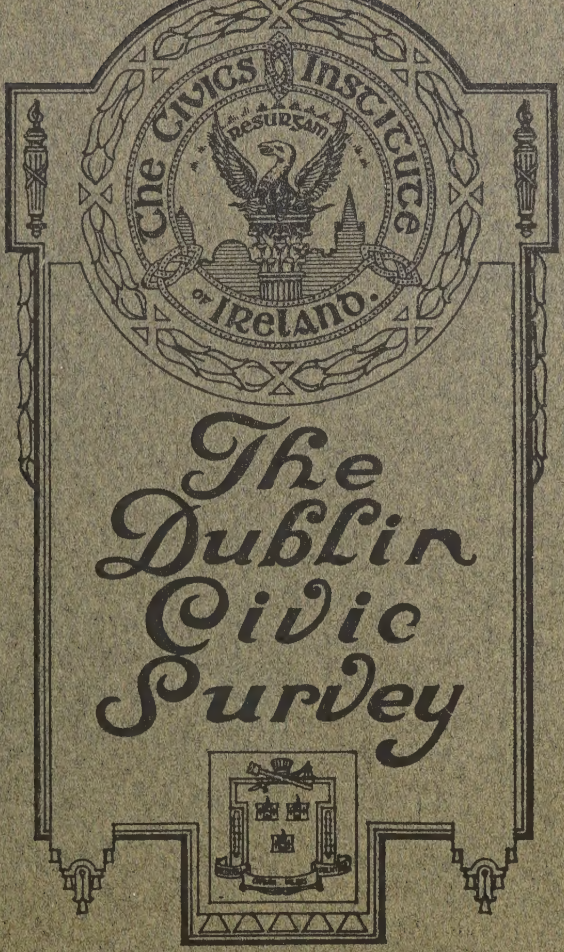
The Civics Institute of Ireland
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The Dublin Civic Survey

1925

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THE
DUBLIN CIVIC SURVEY

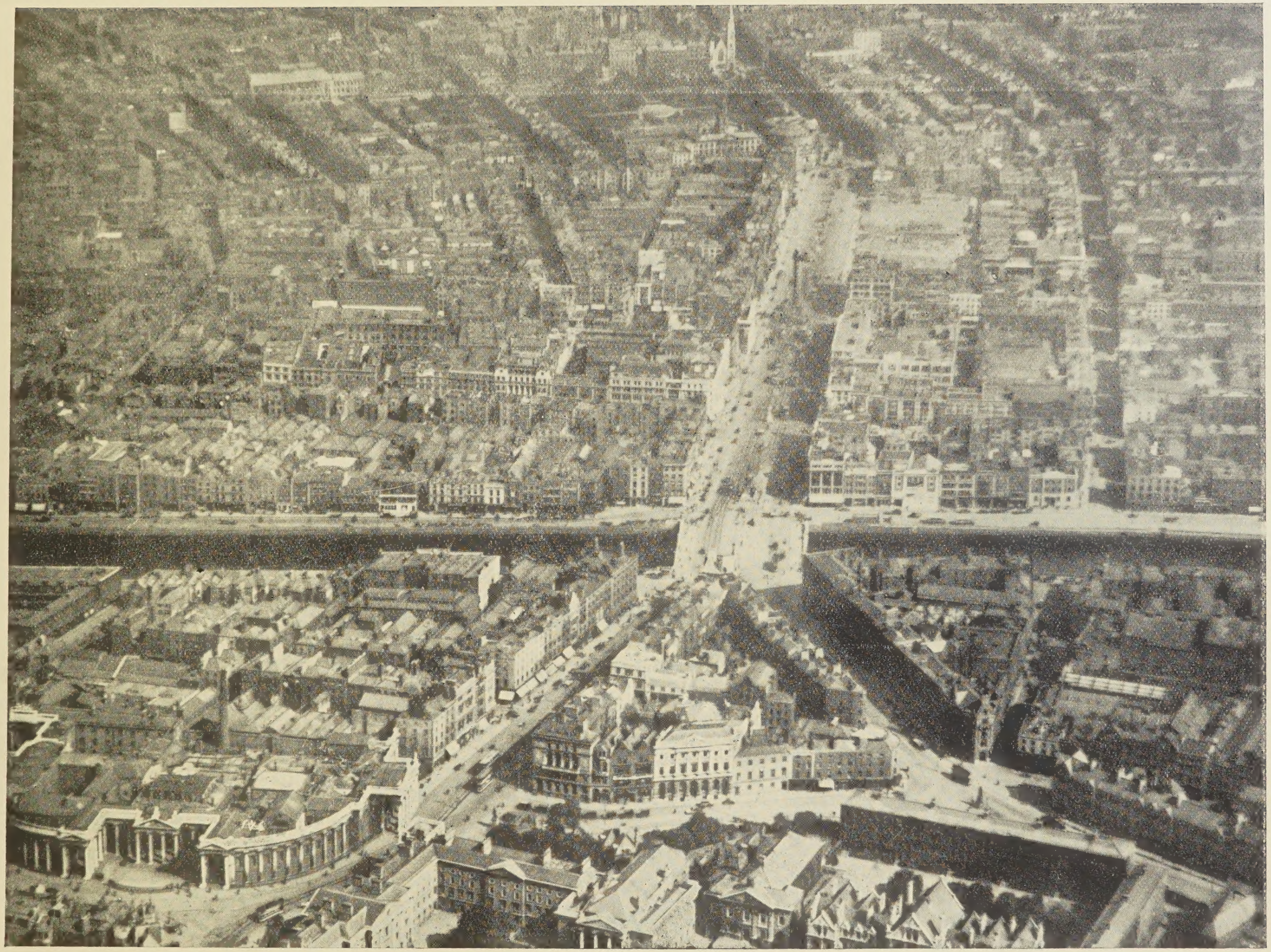

Photo by Army Air Corps]

View of Central Area looking North.

[By courtesy of the Minister for Defence.

Frontispiece

THE

DUBLIN CIVIC SURVEY

REPORT

Prepared by
Horace T. O'Rourke, F.R.I.A.I.
&
The Dublin Civic Survey Committee
for

THE CIVICS INSTITUTE OF IRELAND

OBEDIENTIA CIVIUM URBIS FELICITAS

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of
THE CIVICS INSTITUTE
of
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Dedicated to
The Most Honourable The Marquess of Aberdeen & Temair, K.T., G.C.V.O., G.C.M.G., LL.D.,
and
The Marchioness of Aberdeen & Temair, LL.D.,
Presidents of the Civics Institute of Ireland,
in respectful recognition
of prolonged public services rendered to the City of Dublin.

The Civics Institute of Ireland wish to record their indebtedness to the Women's National Health Association of Ireland for obtaining a grant of £300 towards the expenses of printing this book from the Annie Sharpe Bequest, through the kind co-operation of the Trustees and the Hon. Arthur Whittemore, of Dover, New Hampshire.

The Civics Institute of Ireland, under whose auspices this Volume is published, cannot allow the following Report to be read without acknowledging their appreciation of the way in which the Civic Survey Committee have performed their arduous task of preparing the Civic Survey.

They desire especially to express their deep sense of gratitude to Mr. Horace T. O'Rourke, F.R.I.A.I., City Architect of Dublin, without whom the Survey would not have been completed.

On behalf of the Civics Institute of Ireland,

R. CAULFEILD ORPEN,
Chairman Executive Committee.

9 Ely Place, Dublin,
1*st November*, 1924.

FOREWORD.

The capital cities of the world have always propounded a problem of especial difficulty; so frequently, as in the superlative example of ancient Rome, they have been quite untypical of the methods of urban development of the time and country. A good case can be made out for making the capital an extra-municipal unit, as the United States has done with Washington: but this is much easier when a new site is selected, and a purely capital city designed like Washington or Canberra. More often a historic capital has given up in despair, and allowed things to take their course, keeping hold at most upon a group or two of buildings. Thus, the nominal capital, Bruxelles, is surrounded by its powerful and more populous communes, each looking after itself admirably, but no comprehensive metropolitan plan possible. London is worse off: the parts which have, as it were, horizontal as well as vertical divisions, have hardly begun to consider the need for planning at all: even traffic, that most easily grasped necessity of city control, is thought of bridge by bridge, road by road; a body, permeated with disease and suffering from universal blood pressure, is delicately treated with small patches of sticking plaster for surface wounds.

Vienna and Berlin have indeed attempted to set their house in order (the latter troubled with the dualism of Charlottenberg), but it is to Paris, New York, and Dublin that one must look for a capital city that is aware of its difficulties, and is trying to solve them in a logical way. Paris, of course, has given more consistent and continuous thought to its responsibilities as a capital than any other city in the world, but we are concerned at the moment with what is being done to-day.

Paris and Dublin have proceeded identically in the first stage, Dublin and New York similarly in the second: none of the three has reached the final stage of preparing a City Plan foreshadowing the growth for the remaining three-fourths of the twentieth century.

The first stage of Dublin, as of Paris, has been an international competition. A town-planning competition, quite otherwise than an architectural, does not expect to produce a plan that can be put straight into operation; rather does it set the brains of the world to work upon its problems, and hope for a mass of suggestion and ideas. The Dublin competition was one of the enduring results of the Vice-Royalty of the Marquess of Aberdeen.*

Having thus obtained a notable collection of ideas, the next step was to subject them to a minute scrutiny, and for this purpose a complete analysis of the existing city was necessary. This, to-day, is known as a Civic Survey, and it is now presented to the Public by the Civics Institute, who have carried out this laborious and essential work.

The public as well as the officials and technicians of the City of Dublin and its surrounding local authorities have these two stages available in convenient form for study and comment in two companion Volumes.

Next is to be prepared the Final Town Plan: by whom and by what means cannot be as yet definitely stated. But it is clear that it must have some official status, and that like the Competition and Civic Survey, it must not be confined to arbitrary limits.

The Civics Institute is to be congratulated on carrying the work over this stage: it is now the turn of the Free State to complete it.

PATRICK ABERCROMBIE, M.A., A.R.I.B.A.,
Professor of Town Planning, Department of Civic Design, University of Liverpool.

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* The Prize Design was published in Volume I. of the present series, "Dublin of the Future": a résumé of the other designs is given in this Volume.

THE CIVIC SURVEY COMMITTEE.

HORACE T. O'ROURKE, F.R.I.A.I., *Chairman.*

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Councillor T. J. Geary, *Howth Urban District Council.*

Miss Long, *Hon. Secretary.*

ACKNOWLEDGMENTS.

The Dublin Civic Survey Committee wish to record their grateful appreciation of the voluntary assistance given by those officials of Public Bodies and Local Authorities, and all others, in the preparation of the Survey.

Among those who have rendered particular assistance are the following:—

GENERAL MURPHY, *Chief Commissioner, Dublin Metropolitan Police.*
THE COMMISSIONERS OF THE COUNTY BOROUGH OF DUBLIN.
JOHN J. MURPHY, Esq., *Town Clerk of Dublin.*
WALTER G. STRICKLAND, Esq., *Royal Society of Antiquaries of Ireland.*
W. A. DIXON, Esq., *Architect*, Dublin.
MAJOR T. J. MOLONY, *Officer Commanding Army Air Corps.*
THE DUBLIN CAMERA CLUB.
THE IRISH TRANSPORT AND GENERAL WORKERS' UNION.

The Committee are also indebted to the Marquess and Marchioness of Aberdeen and Temair for their generosity in placing at the disposal of the Committee the financial assistance necessary for the publication of this Report.

AERIAL SURVEY.

A complete Aerial Survey of the central area is being prepared with the authority of the Minister for Defence, by the Army Air Corps, and a limited number of copies will be published by the Civics Institute, by courtesy of the Controller, Stationery Office.

The Institute much appreciate the help given by these Departments, whose co-operation alone has made the publication of the Air Survey possible.

The Institute is particularly indebted to the Army Air Corps, who are responsible for the preparation of the Aerial Survey, and with whom it has been a privilege to be associated in this work.

Since going to press the Institute has learnt with the deepest regret of the tragic death of Major Molony during the Army manœuvres.

He was responsible for the air photographs in this Volume, and the Aerial Survey was begun under his direction. His keen interest in the work and his unfailing courtesy will be held in grateful remembrance by those who knew him, and the Institute has lost a real friend by the untimely death of this very gallant officer.

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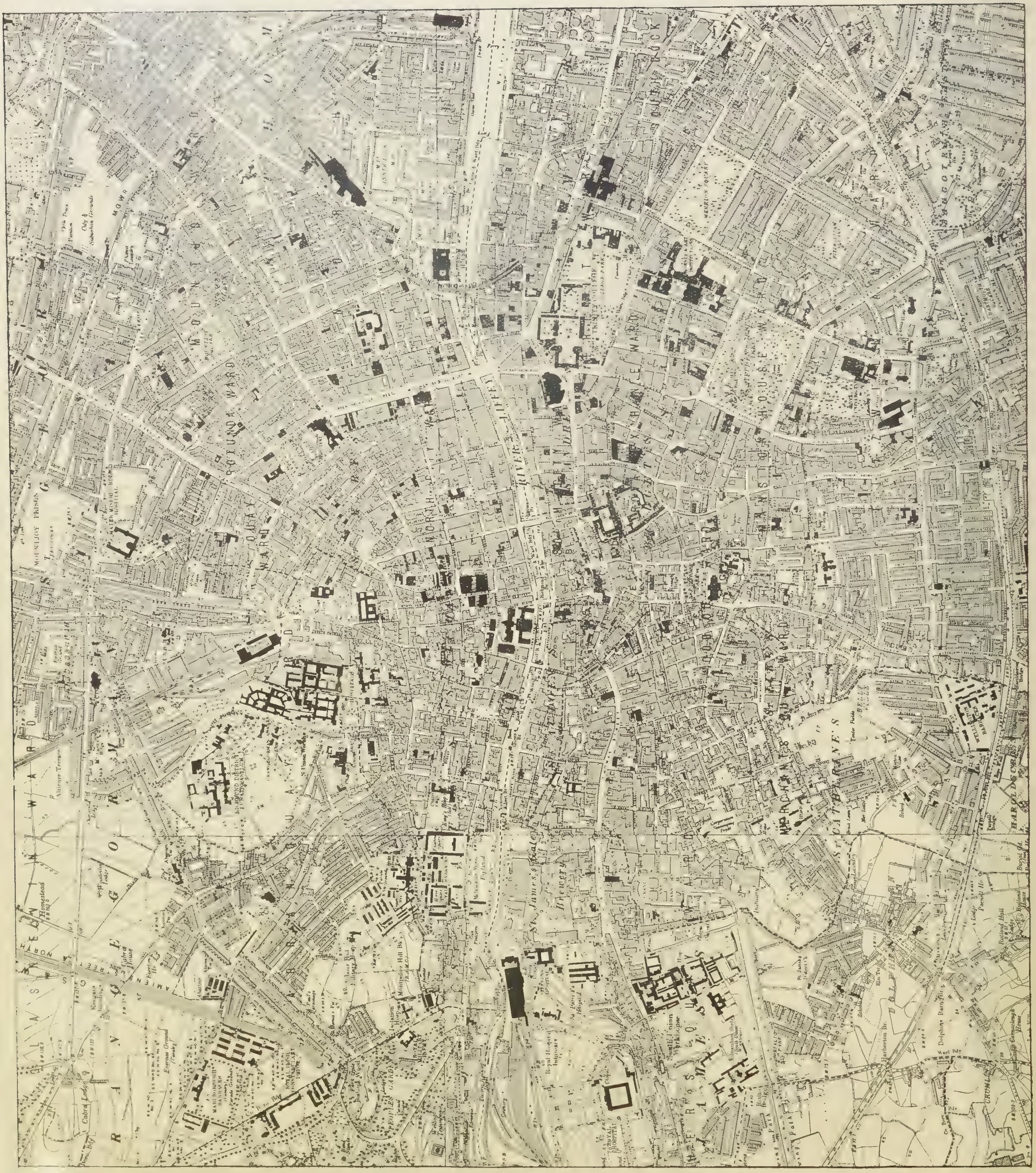
PLATE I.



DUBLIN

[Reproduced from the Ordnance Survey Map.

INTRODUCTORY STATEMENT.

SCOPE OF THE SURVEY.

In accordance with a suggestion put forward by Mr. George F. Beckett, F.R.I.A.I., a member of the Executive Committee of the Civics Institute of Ireland, a preliminary conference was held at the offices of the Institute on the 15th December, 1922, consisting of representatives appointed by various professional and social organisations and public elective bodies, and it was decided to form a Civic Survey Committee under the auspices of the Institute.

The Civic Survey Committee was inaugurated on the 5th March, 1923, and at its first meeting adopted the following terms of reference presented by the Institute. (1) The Committee to proceed with the work of preparing a civic survey; (2) Funds for the necessary expenses will be voted by the Civics Institute, and expenditure only incurred within the limits of such votes. The Committee having now been duly constituted, a draft memorandum was submitted by the Chairman, which is given in its finally adopted form. It was no part of the duty of the Committee to prepare a town plan for Dublin: its activities were confined to the collection and graphic presentation of statistical facts, which is a generally recognised preliminary to the preparation of such a plan. No scheme, either partial or complete, for the improvement of a city has been adopted by a responsible authority in modern times without this essential preliminary. The memorandum embodies all the headings of the information required under the various sections. Through the operation of rota committees the sub-headings under each section of the memorandum were considered, and with the voluntary help of experts a list was prepared of the sources from which the information could be obtained. Questionnaires were then prepared in tabulated form for each section (except Archæology, which was dealt with by special means under the guidance of Mr. W. G. Strickland, F.R.S.A.I.), and these were sent broadcast to the public bodies and organisations within the Dublin area, as well as to Government departments, and individuals who were in possession of the facts.

MEMORANDUM

Detailing the Information to be Provided in the Completion of a Civic Survey of Dublin.

PROCEDURE.

(*a*) The framing of questionnaires.
(*b*) The collection of information in the Borough, Urban Districts, and County Dublin.
(*c*) Analysis and tabulation of the facts brought to light.
(*d*) The graphic illustration by maps of the conclusions arrived at, so as to facilitate comparison, and a general understanding of the problems to be solved.
(*e*) As the problems in the area referred to are general and normal, applying to small capital cities elsewhere, requiring reconstruction, there is no need at this stage to lay down any provisional hypothesis.

STATISTICAL.

1. ARCHÆOLOGY.

- (*a*) Historical and legendary associations with places or buildings.
- (*b*) Developments up to stated periods, and causes of decay.
- (*c*) Analysis of information obtained from old maps.
- (*d*) Origin and uses of historical buildings, walls, bridges, etc.
- (*e*) Particulars of influences in the city's growth.
- (*f*) Sites of existing governmental and municipal buildings.

2. RECREATION.

- (*a*) Particulars as to parks, playgrounds, swimming baths, playcentres, libraries, theatres, cinemas, etc., with figures as to their relative use by the public.
- (*b*) Extra-urban playing fields, golf links, racecourses, with figures as above.
- (*c*) Existing features of natural beauty or interest.
- (*d*) Existing tree-planting and other amenities.

3. EDUCATION.

- (*a*) Particulars as to the existing Universities, Colleges, Schools, and other educational agencies, and their accommodation as to recreation.
- (*b*) Accommodation and attendances, with further need for the former.
- (*c*) Analysis of reports from Education Office and other teaching authorities, as to accommodation and future needs.

4. HYGIENE.

- (*a*) Particulars as to resident population, its distribution and density.
- (*b*) Death-rates in various areas, with adult and infant mortality; also notifiable diseases.
- (*c*) Sites of public and private hospitals, infirmaries and workhouses, and figures as to attendances, and accommodation at private hospitals.
- (*d*) Sites and conditions of unhealthy areas, or areas of special poverty.
- (*e*) The lines of main drainage and water supply, with sites of public conveniences and baths and wash-houses.
- (*f*) Analysis of reports of the Medical Officers of Health.

5. HOUSING.

- (*a*) Sites and accommodation of Governmental, Municipal, and Private Companies' Housing Schemes with population.
- (*b*) Unhealthy areas.
- (*c*) Tenement dwellings.
- (*d*) Particulars of present State housing policy applicable to Dublin.
- (*e*) Available building sites.
- (*f*) Residence of population with special reference to manual workers in relation to places of occupation.

6. INDUSTRY AND COMMERCE.

- (*a*) Sites, nature and employment given by existing factories, with tendencies.
- (*b*) Native industries.
- (*c*) Zones of particular character, industrial, commercial, residential, and institutional.
- (*d*) Sites and nature of public markets.
- (*e*) Reports of Employment Exchanges, giving analysis of employment, juvenile and adult, in various trades within the area.
- (*f*) The port of Dublin, existing trade and tendencies.
- (*g*) Existing power and lighting services.

7. TRAFFIC.

(*a*) Existing traffic facilities—tramways, waterways, docks, and public conveyances.
(*b*) The direction of flow of main traffic from and to the centre of the area.
(*c*) Passenger traffic within the area, particulars as to time, distance, and fares.
(*d*) Provision for road traffic, radial and circumferential, including widths of streets.
(*e*) Statistics of pedestrian traffic within the central area, including widths of footpaths.
(*f*) Points of concentration of pedestrian and vehicular traffic.

GRAPHICAL.

8. MAPS, PLANS, INDEXES.

(*a*) The presentation of the foregoing information in graphical form, and in seven sections, 1–7.
(*b*) Existing town planning proposals for Dublin.
(*c*) Geological and contour maps of Dublin.

During the initial stages of the work an effort was made to limit the field of investigation strictly within the bounds of a practicable survey, as otherwise elements would be introduced which might involve a prolonged inquiry, and produce results, voluminous, but of little value. It might also prove difficult of completion. This was the fate of some English surveys prepared during the War on too large a scale. This is the first occasion upon which a survey of an Irish city has been prepared, and therefore it will form a unique record. It is considered to be the essence of a useful survey that the graphic illustration should be of such a nature that information of all kinds will be visible at a glance to one walking round a room, where the survey is on exhibition, and this consideration has been kept in view during the compilation of this report.

RELATION OF SURVEY AND PLAN.

The initial query in the minds of many of the public may be "What is a civic survey?"

The answer may be stated briefly thus: A civic survey is the statistical and graphical representation of things as they are in a community. A civic survey is not a town plan. They are two separate and distinct things, but one is the forerunner of the other. A survey is as necessary to a plan as a physician's diagnosis is to his prescription. The chronological order of survey first and plan afterwards must be maintained, and Dublin should not be allowed to be any exception to this rule. Although many of the problems of civic design give rise to opposing schools of thought, all agree as to the necessity of a preliminary survey. The survey may include merely the basic and essential facts appertaining to the various uses of a town, or it may include a comprehensive and far-reaching inquiry. Whichever it is no modern planner worthy of the name would proceed to carry out any plan without it. In discussing the schemes submitted in the Dublin Town Planning Competition of 1916, the assessors when commenting upon the inadequacy of certain suggestions, stated in their report: "This is plainly owing to the want of a city survey, to which this competition should lead." The necessity for a civic survey preparatory to a town plan is not specified in the English Town Planning Act of 1909, but the omission became apparent subsequently, and was rectified in the regulations for town-planning schemes prepared for the guidance of local authorities by the Local Government Board. Without this precaution public authorities would be in danger of taking the opposite course—

that of planning before survey. With a civic survey before the town planner no serious mistake is likely to occur, as it educates both the expert and the citizen in the factors and conditions governing his town life.

As already stated, a civic survey is a representation of things as they are, but it also serves another useful purpose. It enables an expert to present a forecast of future development. It has therefore a two-fold value. Theoretically, it may be broadly considered under two aspects: one physical, the other social and economic. As regards a forecast of future development, the civic survey has its usefulness, for the town-planner has to assume the role of prophet—he has to predict the growth of a town for half a century. He has to foresee the extension of its traffic; its manufactures; its shipping, if a seaport; its culture; its industry and commerce; and sketch out a policy accordingly. It may be objected that no man could see so far ahead, because the conditions of modern life change rapidly. That is quite true in matters of detail, but it does not alter the main principle, and most contingencies in planning can be provided against by an expert imbued with the many-sidedness of civic life. It has also been questioned whether imagination was likely to be of any value at all in town planning—the most complex of architectural problems—yet, it has been proved that unless a town-planner had vision, unless he was allured to brighter worlds, his work would never be abiding. Imaginative work in any sphere, worthy of the name, reaches beyond the day and the hour, and is, figuratively speaking, for all time.

The relation of survey and plan is apparent in all properly conceived development schemes for the improvement of towns and cities, and in recent years the scope has been widened to regional survey and planning. Across Channel the survey is an established preliminary to planning, as evidenced by the fact that such cities as Birmingham, Manchester, Dundee, Leicester, Sheffield, Doncaster, and York have had surveys, as well as such places as Richmond, Woolwich, Chelsea, and Stratford-upon-Avon. The London County Council has now in preparation a survey of that city, and several sectional volumes dealing with it have already been published. The procedure upon which these surveys were based follows generally adopted rules, and in some cases the survey was influenced by a provisional hypothesis. For example, at Sheffield the local steel trades and their influences; at Doncaster, the prevalence of the mining industry, and its control; at Stratford, the historical associations of the birthplace of William Shakespeare. In most cases, as a preliminary to town-planning developments the following considerations were kept in view throughout the inquiries. As a town-planning scheme must both direct and limit the development of the area to which it applies, success can only be expected if it is based upon a thorough survey and understanding of all existing conditions. Such survey, in addition to recording the physical conditions of the site, may cover the social and economic state of the population; the historic and archæological interest associated with the locality and its buildings; the present distribution of the population, its standard of health and well-being, its occupations, with a study of the available opportunities for education and culture; the topography of the region with any natural conditions of the site, the nature of the soils, the average rainfall, particulars of the prevailing winds and other climatic conditions affecting water supply, vegetation and animal life; freedom of access to natural advantages, such as river or sea coast for fisheries, commerce or recreation; the history of the development of the town, showing influences which have led to its existing condition, its traditional associations worthy of preservation with a view to maintaining its individuality; particulars of local government areas, municipal and parochial, giving usual tenure of land and ownership; the existing open spaces, parks and play-grounds, as well as theatres and places of amusement, and the use made of them: the local industries, and their possible development, with statistics as to existing trade and commerce, the volume of traffic frequenting the area, and the manner in which developments would give relief or cause further congestions, particulars of the public transport services, such as local trains, tramways, and 'bus routes; the existing public services providing water supply, drainage, light and power; particulars as to existing provisions for housing the working classes, the sites of slum areas and working-class garden suburbs: places where picturesque beauty exists, or where symmetrical planning has been carried out in the past are noted so that what is good may be preserved, and extensions may be so designed as to enhance the existing effect.

The outline which has been given will convey to the public mind something of the formidable task which a voluntary committee in Dublin has endeavoured to do in order to assist in the development on proper lines of the capital city.

DUBLIN'S NEED OF SURVEY.

Nothing in our modern civilisation has been more mischievously underestimated than the influence of the physical aspect of a town upon the spiritual and moral life of its community. People, therefore, who resent the chaos and squalor inseparable from everyday life in a neglected city, tolerate these conditions only while they must, but leave them when they can. Unfortunately, groups of comparatively enlightened citizens fail to see that, although a particular building must be planned for economy and efficiency, the same wisdom is necessary for an aggregation of buildings aligned in streets which are called towns. Hence it is that towns and cities have been allowed to grow in haphazard fashion like weeds in a neglected garden, and consequently, they sprawl over great areas, sapping the vitality of cultured portions. It may be said without exaggeration, that all the difficulties and costliness of civic administration can be ascribed to such blind and wasteful development. Every citizen possessing civic consciousness should look upon it as an honourable obligation to see that his city presents a noble standard of order and comeliness. Cities are not intended by man to be monuments of greed and carelessness. A city, like a commercial concern, must either recede or progress; it cannot continue to "mark time." It cannot be too strongly emphasized that the state of a city indicates the character of its citizens, and no city is so large, and no village so small, that it will not have need of, and opportunities for, improved structural and administrative development. Village communities act as feeders to the population of towns, and therefore the village should be the cradle of civic consciousness. The preparation of a civic survey for a village or a town is the best education a local community could have. In modern times without such a survey a model village or town, or what is almost equally important, the desire for it, cannot be created. In a model town every civic factor is harmoniously combined, and a step further up takes one to the model city, which is the physical and administrative result of a town plan formulated on a civic survey. Among other things a survey shows the defects of outworn forms of city development. A city which retains the form it possessed in the Middle Ages is no more use to this generation than was a Norman vault to the man who conceived the fan ceiling of Henry VII.'s Chapel, or the roof of the Parthenon to the man who constructed the cupola of the Duomo at Florence.

The work of the survey in the Irish capital is of national importance; it is more needed in Dublin than probably any capital city in Europe. Our civic problems, physical and administrative, cry out for immediate solution. In a progressive capital the want of modern educational facilities; the need of proper forms of juvenile recreation; indifference to historical associations, so valued elsewhere; the stagnation of industry and commerce; the inconvenience and costliness of transport, and the wretched habitations of the masses of the poor, cannot be allowed to remain as they are in Dublin.

Those who believe in the necessity of a survey will plead for a broader vision than we have had in the past. This means the elimination of all trivial differences and co-ordination of effort. The small things are not the things that matter when great schemes are being planned. The expenditure of large sums of money must be faced in the improvement of a capital city in the condition of Dublin. But, as Henry Ford has said, it is short-sighted men who think first of money. Dublin of to-day needs a great awakening, a freedom from political and religious controversy, a subordination of the individual for the general good as well as a disregard of the sanctity of vested interests. As compared with the historic but modernised capitals of Europe, Dublin is 100 years behind the times in civic progress. It has become obvious that ordinary measures are totally inadequate to deal with the situation. The authorities need drastic statutory powers reinforced by State expenditure. The necessity of survey cannot appeal to authorities which have hide-bound notions, and are already overburdened with their responsibilities. The civic spirit in Dublin to-day can only be revived by strenuous propaganda, aided by the practical co-operation of the State, and it is hoped that the publication of this Survey will promote both. The want of knowledge displayed by the citizens generally of the actual conditions pertaining to their communal life is a further justification for the Survey.

As the capital is a national asset, it appears to be the work of the State rather than the Municipality, to bring about its regeneration. The local ratepayer should not be asked to shoulder the burden of ameliorative remedies which alone are of little avail. In the past Dublin has been compared to an apple that has bloomed, then withered, and finally decayed at the core. Dublin of to-day presents to the visitor a lamentable picture! It has assumed during the last half century an artificial centre in the Sackville (O'Connell) Street area, too far eastward, and too near the dock district, causing an abandonment of the true geographical centre. This condition has led to the burden of the traffic being carried from north to south, or *vice versa*, in a wasteful manner. The city's unkempt appearance is not confined to the poorer quarters. Citizens of all classes frequently endeavour to evade the byelaws framed under the Public Health Acts, and the building codes of the local authorities are obsolete. The Municipality has very restricted powers under statute, and its operations are therefore limited by obsolete legislation. The public services, such as lighting, power, and tramways, are inadequate. In many places street widening improvements are a pressing necessity. There is no segregation of buildings of one class into certain suitable areas, or what is called "Zoning." There is no control over the frontage design of buildings, except in a small portion of the city, known as the "destroyed area," since the political troubles of 1916 and 1922. The railway termini are not in direct connection, and the suburban railway service in some directions is of very limited usefulness. There is a long stretch of water front at the docks now useless, because remote from terminal facilities. The dock accommodation is obsolete, and the port of Dublin as a whole needs much improvement to be effective. Port development as a factor in cheap transport, and as the most effective check on railway freights, is now recognised in many of the great commercial centres of the world. Street advertisements run riot in Dublin, and destroy the appearance both of streets and buildings. Great tracts of Dublin are practically inaccessible hinterlands, hopeless and forbidding! The food markets are congested, and approached through narrow alleys, and many commodities are sold in the streets. The cattle market is remote from the docks, and in one of the best residential portions of the north city. Here also is what passes for a public abattoir, yet private slaughter-houses abound in back streets. The Corporation of Dublin has not been able to provide proper staff accommodation, owing to the want of a central Municipal Building—yet, citizens demand economy and efficiency. Many important Government Departments are scattered and housed wastefully in decayed private residences. The city canals are in a state of neglect and abandonment—prostrate victims of railway monopolies. The enclosed plantations of the great city squares, with the exception of Stephen's Green and Fitzwilliam Square, are in the poorest condition, and there is no public admission, except to the former. The housing of the working classes for the most part is provided by the use of old Georgian mansions, which have not been properly converted to such use. The city is not well equipped in institutions devoted to child welfare. There are too many general hospitals working independently on an extravagant system.

The foregoing is merely a synopsis of the problems requiring attention, and the disadvantages from which the capital city suffers, which must be rectified for our social and economic development. This report will have achieved a major portion of its aim if it contributes towards an adequate realization of the condition of our civic affairs, and prevents cheap and partial improvements that neglect inter-related problems affecting the whole of Dublin and its environs. Furthermore, it is hoped that its circulation amongst the citizens will lead them to support the State in the preparation of a town plan for greater Dublin. The preparation of such a plan with its legislative adoption would confer an immediate and far-reaching benefit upon the city and its environs, as by its means all physical development would be controlled and haphazard extension effectively discouraged. The plan would attain complete fruition in stages of urgency, so that there would be no need to be alarmed by its ultimate scope. It may be noted here that the Free State Government has been giving some preliminary consideration to the preparation of a Town Planning Act for the country. The British model of 1909, with amendments in 1919 and 1923, may not prove to be suitable, as the conditions are fundamentally different. In any event a measure should be drafted for the capital by itself; there is ample justification for such a step.

Following the establishment of legislative independence, there can be little doubt that a tremendous industrial and commercial development will take place in the near future. The exploitation of the mineral wealth of the Free State, coupled with its natural adaptability for enlargement and extension of its industries, will call for the greatest care to ensure that these developments are carried out on modern lines, and associated with scientific civic planning.

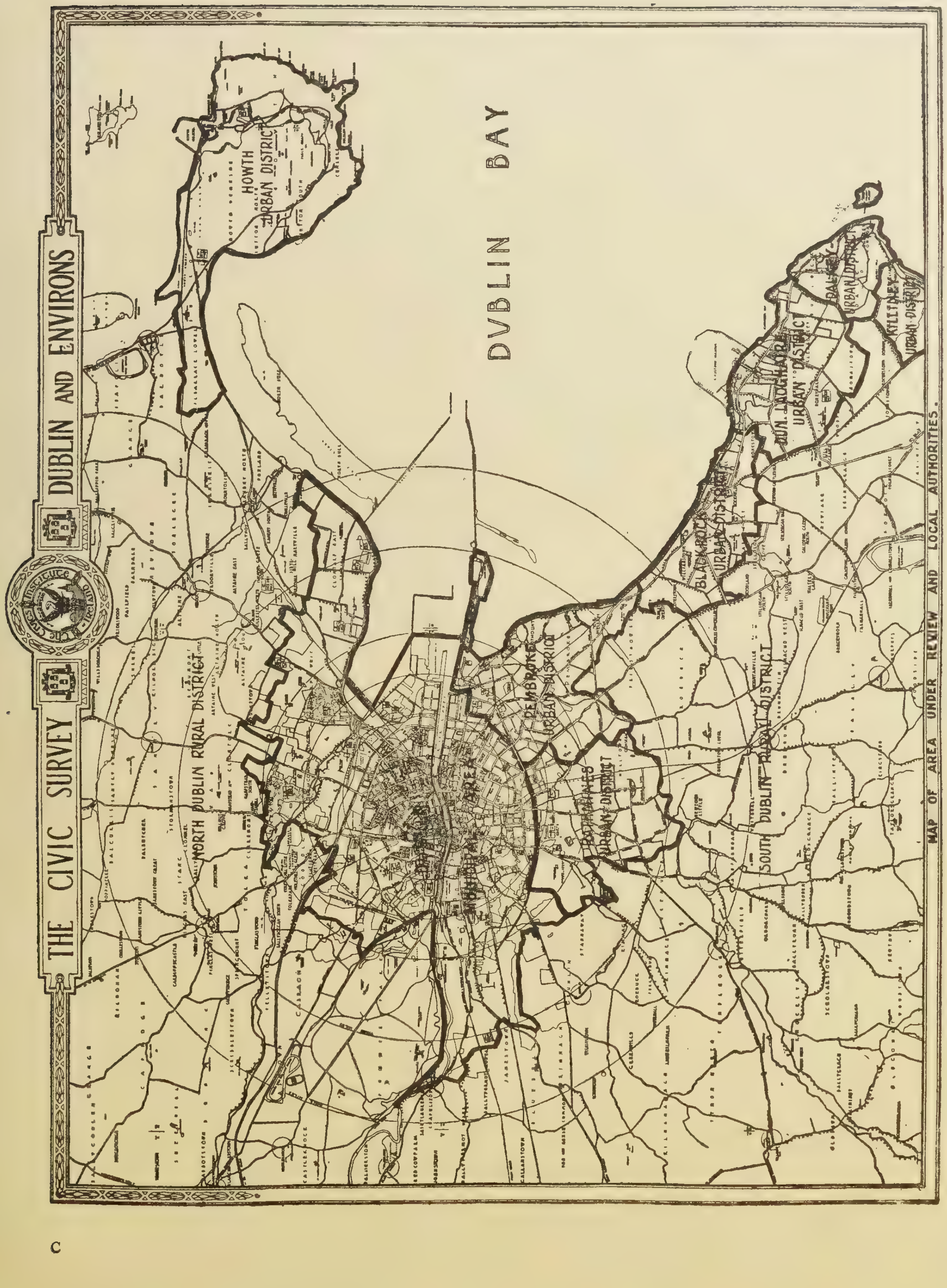
THE CIVIC SURVEY OF DUBLIN AND ENVIRONS.

The Local Authorities existing and their areas of control are as follows:—

AUTHORITY.	DATE OF CONSTITUTION.	AREA IN ACRES.			POPULATION.
		A.	R.	P.	
Dublin Corporation	1840	8,172	0	0	304,208
Rathmines Urban District	1862	1,714	1	31	37,840
Pembroke Urban District	1863	1,571	2	24	29,294
Blackrock Urban District	1863	1,083	1	13	9,080
Dun Laoghaire Urban District	1898	1,462	1	21	17,219
Dalkey Urban District	1858	591	3	6	3,536
Killiney Urban District	1866	1,017	1	3	2,721
South Dublin Rural District	1898	42,008	1	16	16,249
Howth Urban District	1917	2,925	0	0	—
North Dublin Rural District	1898	36,275	0	5	18,011

Note.—The above figures with reference to population, are taken from the Census of 1911, the most recent one available.

The most important area is that controlled by the Dublin Corporation, as it includes the city of Dublin, which authority extended its former boundaries in the year 1900. A considerable portion of the Rathmines and Pembroke Urban Districts is urban in character, especially where adjacent to the city area. The rural districts of North and South Dublin comprise almost exclusively rural areas, with a few villages.



MAP OF AREA UNDER REVIEW AND LOCAL AUTHORITIES.

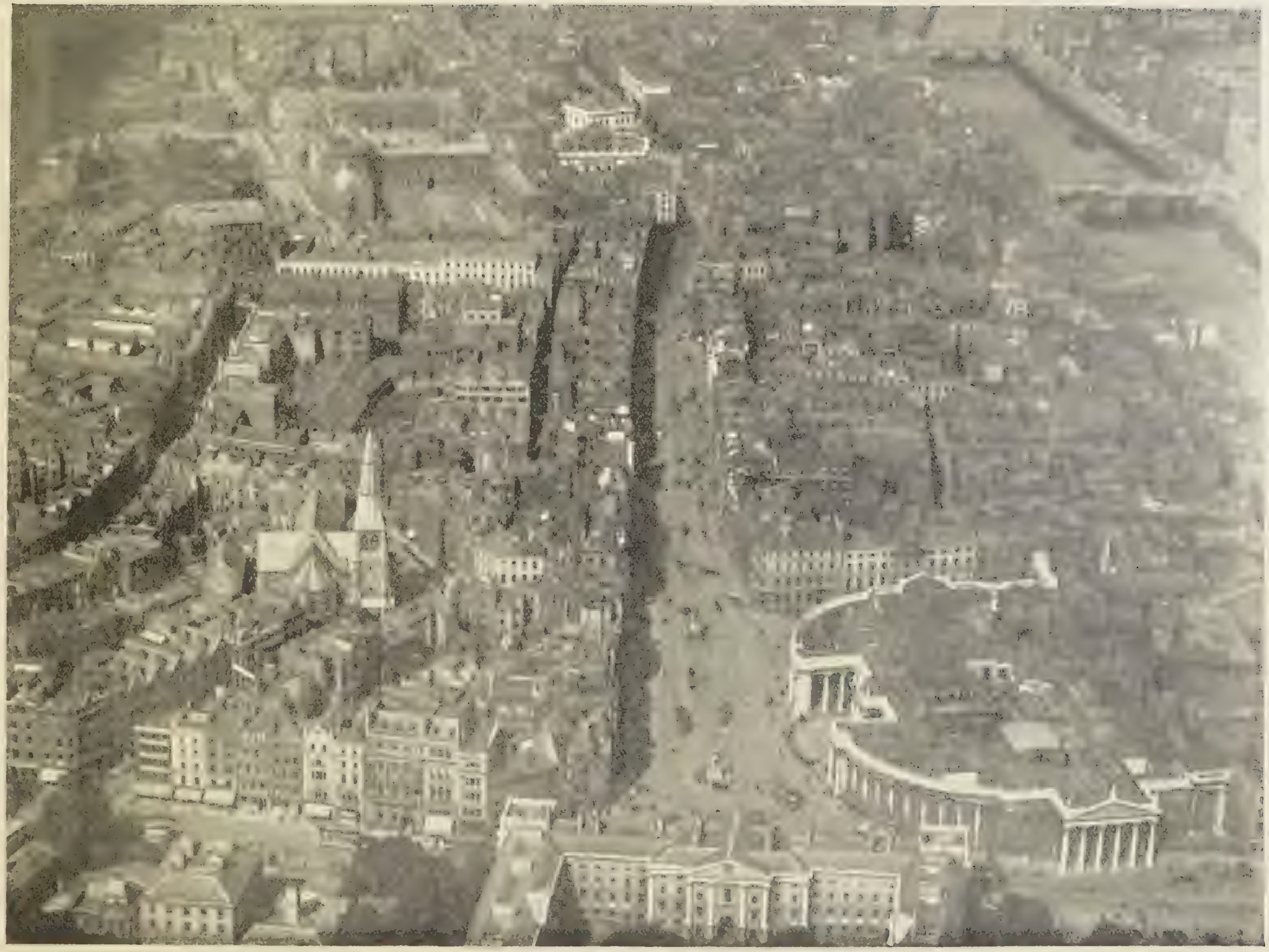


Photo by Army Air Corps]

View of Central Area looking West.

[By courtesy of the Minister for Defence.

THE SURVEY.

DUBLIN'S existence in the dual capacity of (*a*) a national Capital and seat of Government, and (*b*) the principal railway centre and port of the country, is the foundation upon which everything pertaining to the city must rest. Any serious interference with these primary functions should not be admitted; the problems of the future growth of Dublin are intimately bound up with them. As a cultural and recreational centre it has attained considerable development, and its functions in these respects must inevitably enlarge as time progresses. The historical interest of Dublin is of first-rate importance, and must continue to be so for varied reasons. This is its chief indestructible element, but many others through neglect may easily be lost. It is believed that the facts and figures of this Survey will show that much is already in a condition approaching destruction. The regeneration of this capital city is a task so great that it is difficult to discern the proper angle of approach, the route to follow, or the compass of essential reconstruction. The importance of a civic ideal—whereby all units essential to city life may co-operate and advance in an orderly manner—is not yet realised by the mass of our citizens. Within the past few years, the population of the capital has been augmented by a disproportionately large rural element. This accretion cannot be expected to possess advanced civic ideals, for its notions are naturally primitive. Furthermore, it can think only in a narrow commercial sphere; with the lure of city life it becomes undisciplined. Critics of progress maintain that Dublin must ever lack the seething population that other capitals possess; that it must ever lack extensive trade and industry; and that its people will always lack the civic spirit. While these assertions have in the past been based on actual experience or on a substratum of truth, and are capable of explanation when viewed politically, yet that they should obtain in the future appears incomprehensible. The want of progress for generations and the material destruction of the past decade are in some respects distinct opportunities, and have opened up possibilities which are still remote from wealthy and highly-developed cities elsewhere.

Dublin is a city of magnificent possibilities—not even inferior to Paris—placed astride a fine river, geographically well situated, and generally of great beauty and interest. It is in the centre of one of the finest bays in Europe, giving its inhabitants ready access to the sea, hemmed in by vast stretches of fertile land and picturesque hills. The river has two tributaries skirting the city, one on the north side and one on the south—the Tolka and the Dodder—which might be converted into river parkways of a kind second to none in any modern city. The river passes through the city area from west to east, and could be made into a water avenue of surpassing beauty. Situated at its mouth the city's geographical position is in latitude 53° 20′ 38″ north, and longitude 6° 17′ 30″ west, being 292 miles W.N.W. of London, 138 miles west of Liverpool, and 60 miles west of Holyhead. During the past half century the nominal centre of the city has been in Sackville (O'Connell) Street, and at a point where stands the Nelson Column known as the Pillar. This column is a landmark of Dublin, and was erected in 1808 on a most ill-chosen site where it divided the street into halves and constitutes a serious traffic obstruction. The central area of Dublin is bounded by fine circular roads, one on the north and one on the south, and this feature ranks as one of the most valuable assets in city planning. These magnificent routes require proper connection at the eastern and western ends. Almost coincident with these routes are the canals, one on the north side and one on the south—the Royal Canal and the Grand Canal—which empty their waters at the mouth of the river. On the north side are situated the termini of the Midland Great Western Railway and the Great Northern Railway, and on the south side those of the Great Southern and Western and the Dublin and South Eastern Railways. The terminal stations are well-placed, but are not linked up. A viaduct erected about forty years ago connects the Great Northern with the Dublin and South Eastern Railways, but is unsightly, and has lowered the value of city property in the neighbourhood. Within a distance of little more than three miles the river is spanned by nine bridges, one of which—O'Connell Bridge, rebuilt in 1880—is worthy of the city, and a fine engineering work. The remaining bridges require to be rebuilt, and some bridges should be added as part of a town-planning scheme. The northern and southern quays of the river are for the most part wide and well planned, but need various improvements, especially for traffic purposes. The north-western portion of the central city area is in a somewhat advanced state of decay, and is remote from main routes. Adjacent to the Four Courts is the geographical centre of the city, which is also the ideal focal point of main arteries converging upon the capital. The neglect of the natural and scientific development of this area as a traffic centre is one of the fundamental evils from which Dublin suffers. The planning of Dublin in some of its essentials bears a considerable resemblance to Paris. On the north-west side is the Phœnix Park, corresponding to the Bois de Boulogne and other features, on the south-east side the buildings of the legislature and the seats of learning corresponding to the Chambre des Déptuées and the Quartier Latin. Its future planning will, it is hoped, increase that resemblance if the traffic centre forms a great square on the river bank at the geographical point corresponding to the Place de la Concorde, if the site of the national cathedral is placed on the north side at the head of a principal thoroughfare, as is the case with the Madeleine, and further, if the national theatre is built in a place corresponding to the Opera, which suggestions have already been put forward in a town-planning competition. The more valuable residential suburbs of Dublin are placed on the south side, but those on the north are situated upon elevated and more healthy ground. The surrounding terrain to the north and west is comparatively flat, but to the south there are well-wooded hills and mountains, which form a picturesque background.

In the north-western outskirts is situated the Phœnix Park, which is approached by the North Circular Road and the northern quays. This park has the distinction of being one of the largest public parks in Europe, and embraces an area of 1,760 acres. It contains several official residences besides the Training Depot of the Civic Guard and the buildings of the Free State military headquarters staff. It also contains the People's Gardens and the Zoological Gardens. In the more northern outskirts is situated the cemetery of Glasnevin, a burial-place for Roman Catholics, and in which lie the remains of many distinguished Irishmen. Adjacent to the cemetery is the Botanic Gardens, chiefly utilised for the culture and display of botanical specimens. These gardens also possess interesting association with several Irish poets and authors who achieved fame. On the city side of the suburb of Clontarf is situated Fairview Park, which has been reclaimed from the foreshore at the mouth of the Tolka.

In the south-western outskirts are the cemeteries of Mount Jerome and Golden Bridge. In an eastern direction and nearer the centre of the city is Stephen's Green Park. This is the largest of the great squares of the city, and was laid out by the late Lord Ardilaun.

In a westerly direction, and eight miles from the city, is situated the picturesque village of Lucan on the banks of the Liffey. It is known as a health and pleasure resort, and contains a

PLATE IV.

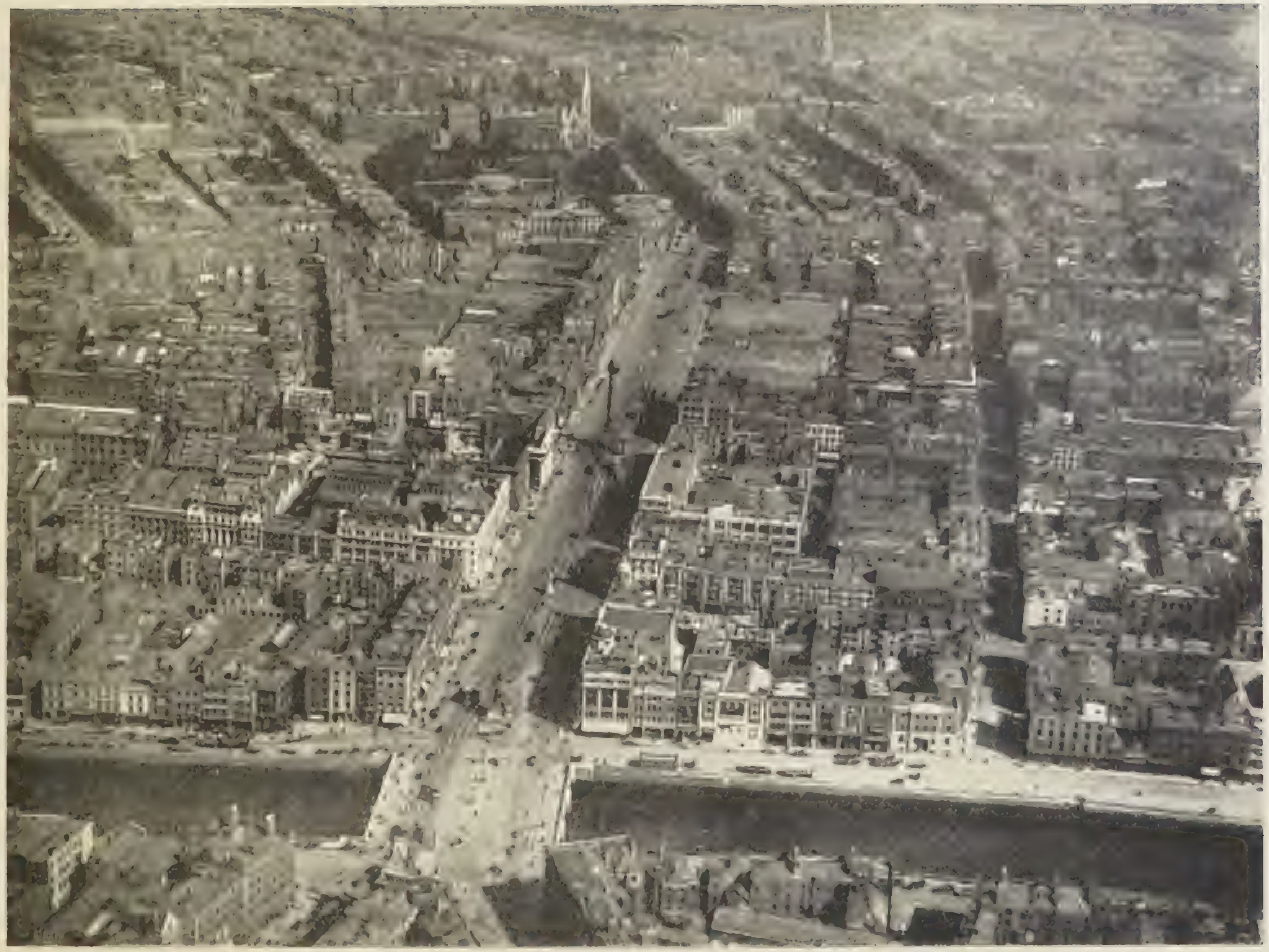


Photo by Army Air Corps]

[By courtesy of the Minister for Defence.

View of Northern Area looking North.

PLATE V.

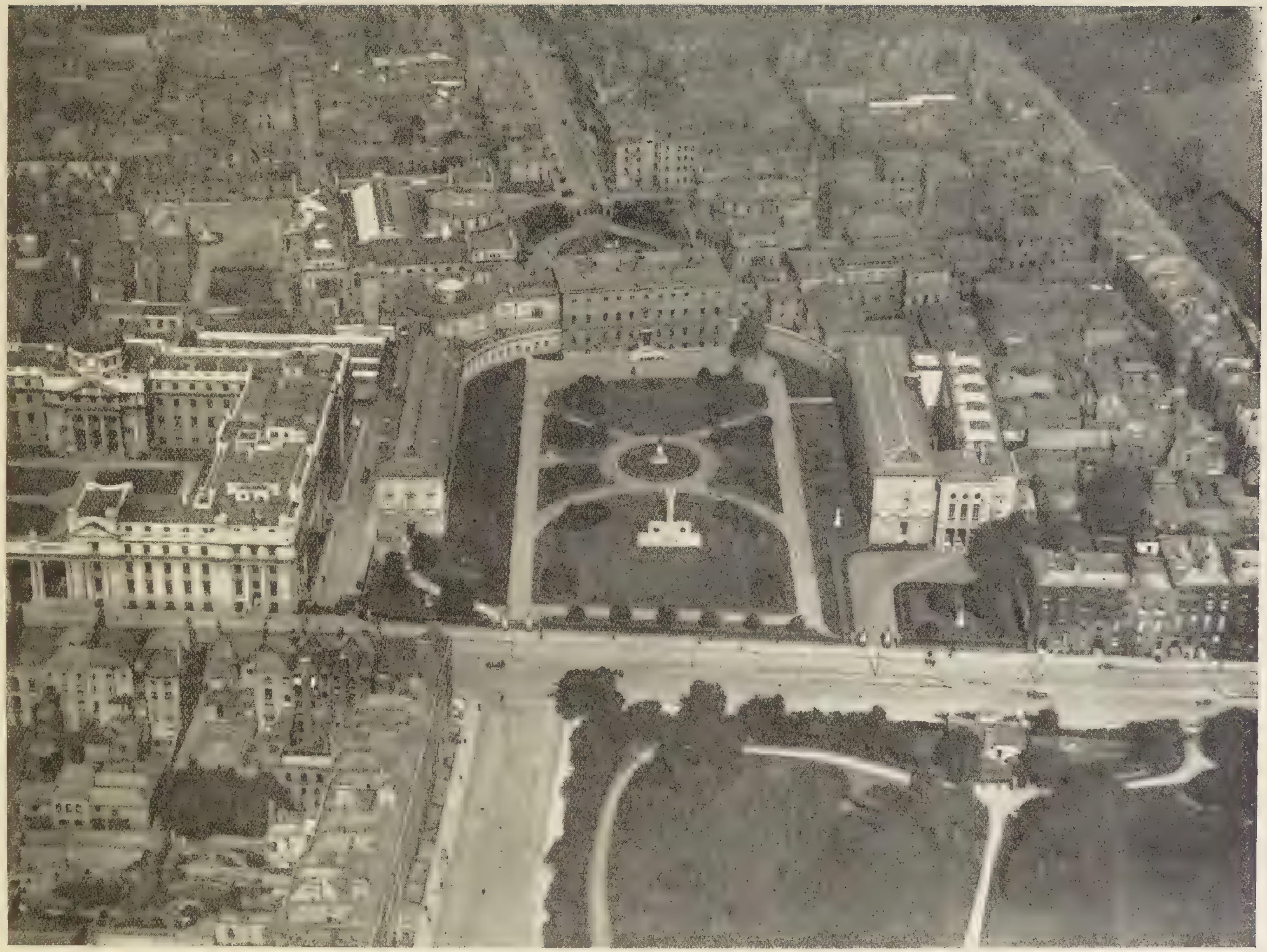


Photo by Army Air Corps]

View of Southern Area looking West.

[By courtesy of the Minister for Defence

sulphur spa, equal in medicinal properties to any British spa. About a mile and a half further west is Leixlip, where there is a noted waterfall, the "Salmon Leap."

At the southern extremity of the suburb of Rathmines is situated the district of Terenure, from which the picturesque resorts of Blessington and Poulaphuca are reached. The last-named is noted for its scenery, the principal feature being the cascade surmounted by a bridge.

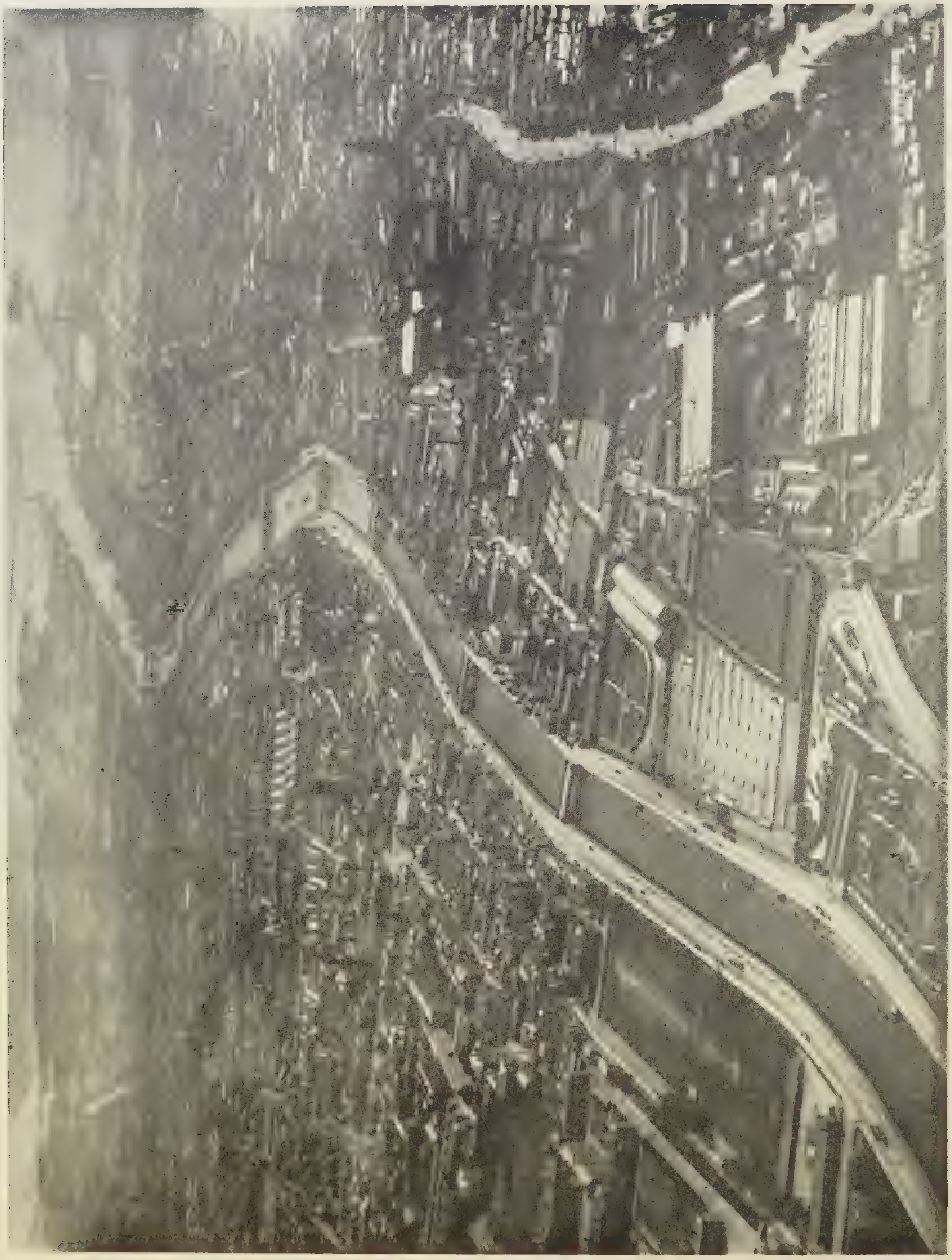
The Urban District of Howth is situated at the north-eastern extremity of Dublin Bay, and is about seven miles from the city. It is an historic place, rising to an elevation of about 600 feet, and possesses great beauty. It was formerly used as a mail packet station, but its harbour is now neglected. There is a considerable fishing industry here. From the summit of the headland fine views of Dublin Bay may be obtained. Its history is identified with the occupation of the Norsemen, who were expelled in 1179, by a distinguished ancestor of the St. Lawrence family. Nearer the city are the low-lying districts of Baldoyle and Sutton, the latter forming part of the Urban District of Howth. This neighbourhood has developed in recent years, as a good class residential district. To the north of the harbour of Howth and about a mile distant is the small and uninhabited island of Ireland's Eye, which is a favourite summer resort for boating excursions. Inland from the Urban District is the Rural District of North Dublin.

On the southern shore of Dublin Bay are the Urban Districts of Pembroke, Blackrock, Dun Laoghaire, Dalkey, and, further south, Killiney. Inland are situated the Urban Districts of Rathmines and part of Pembroke, with the Rural District of South Dublin. The Urban District of Blackrock lies on the road to Dun Laoghaire, and possesses a large park. The districts of Rathmines and Pembroke are for the most part urban in character, and form attractive residential neighbourhoods. Dun Laoghaire (or Dunleary) is about seven miles from the city, and has a good class residential population. The district is of comparatively recent date, as previous to the year 1817 it had no existence except as a fishing village. In the year 1821 it was visited by George IV., in commemoration of which an obelisk on the sea front was erected, and the name changed to Kingstown. The fine harbour then in process of construction was subsequently finished at a cost of £800,000, and is principally used as a mail packet station; its pier is used as a pleasure resort. The Urban District contains a well-kept park. About two miles south of Dun Laoghaire is the Urban District of Dalkey, which possesses a picturesque coast-line, a harbour, and small park. The lay-out of the town is so haphazard that sea views are difficult to obtain, and the residential property is for the most part enclosed by obstructive walls. A few hundred yards off the coast is Dalkey Island, which is the resort of pleasure parties. Further south, and extending inland, is the Urban District of Killiney, which in its elevated parts rises to a height of over 400 feet, and contains a rustic park with an obelisk at the summit. From this hill fine views are obtained of Dublin Bay, with Dalkey and Dun Laoghaire in the foreground, and in the opposite direction the Wicklow Hills. The park was opened to the public in 1887, in commemoration of the Jubilee of the late Queen Victoria. Near the village is a landmark known as the "Druids' Judgment Seat," and the district has historical associations.

There is probably no city of any antiquity with which so much could profitably be done to bring it into line with all the requirements of a modern community, and there is none more favourably situated.

A consideration of Dublin in its various aspects as seen to-day will be found in the portion of the Survey devoted to sectional inquiry under the headings of Archæology, Recreation, Education, Hygiene, Housing, Industry and Commerce, Traffic.

PLATE VI.



Aerial View of the Liffey from West to East.

Photo by Army Air Corps]

[By courtesy of the Minister for Defence.

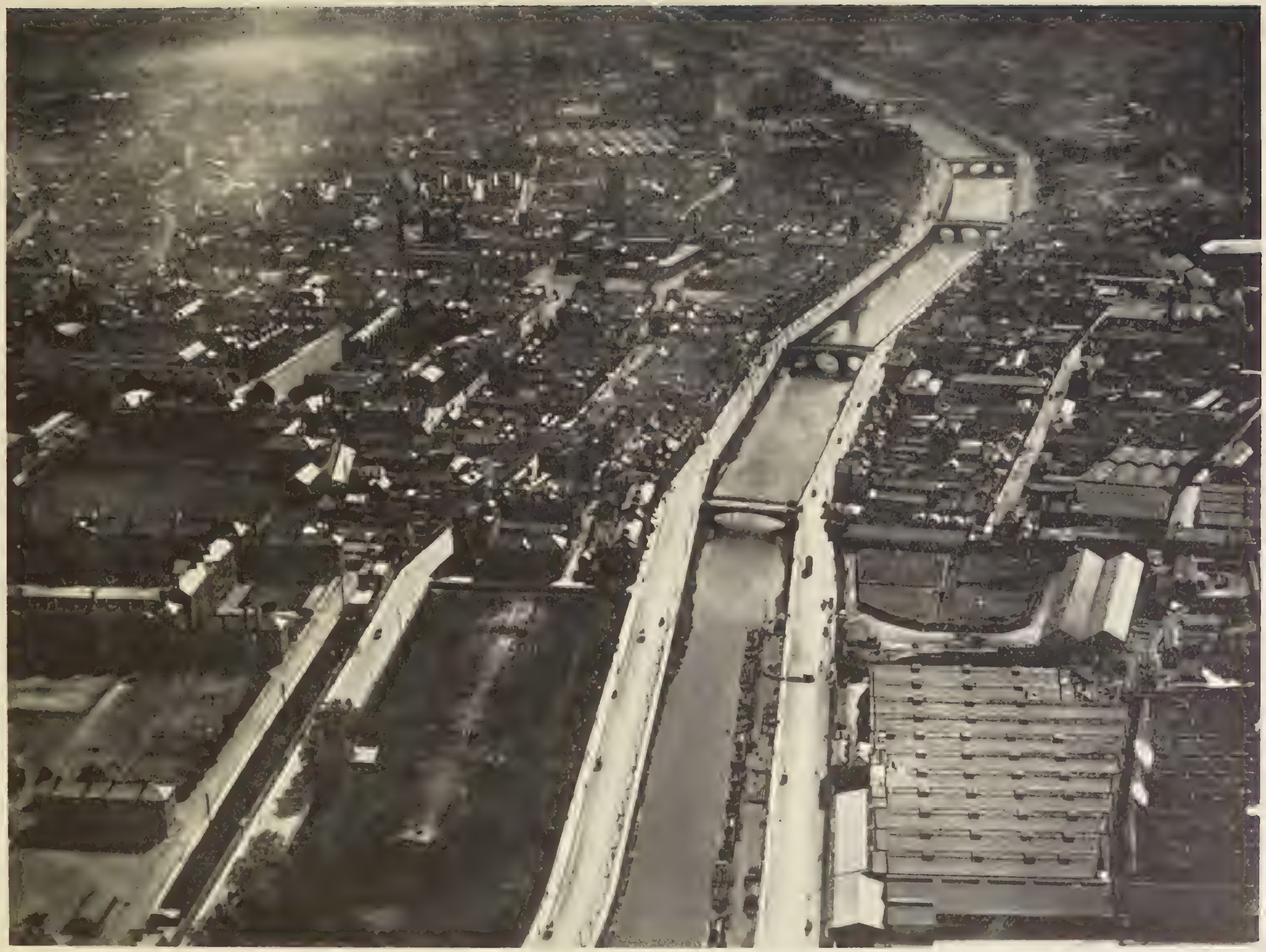
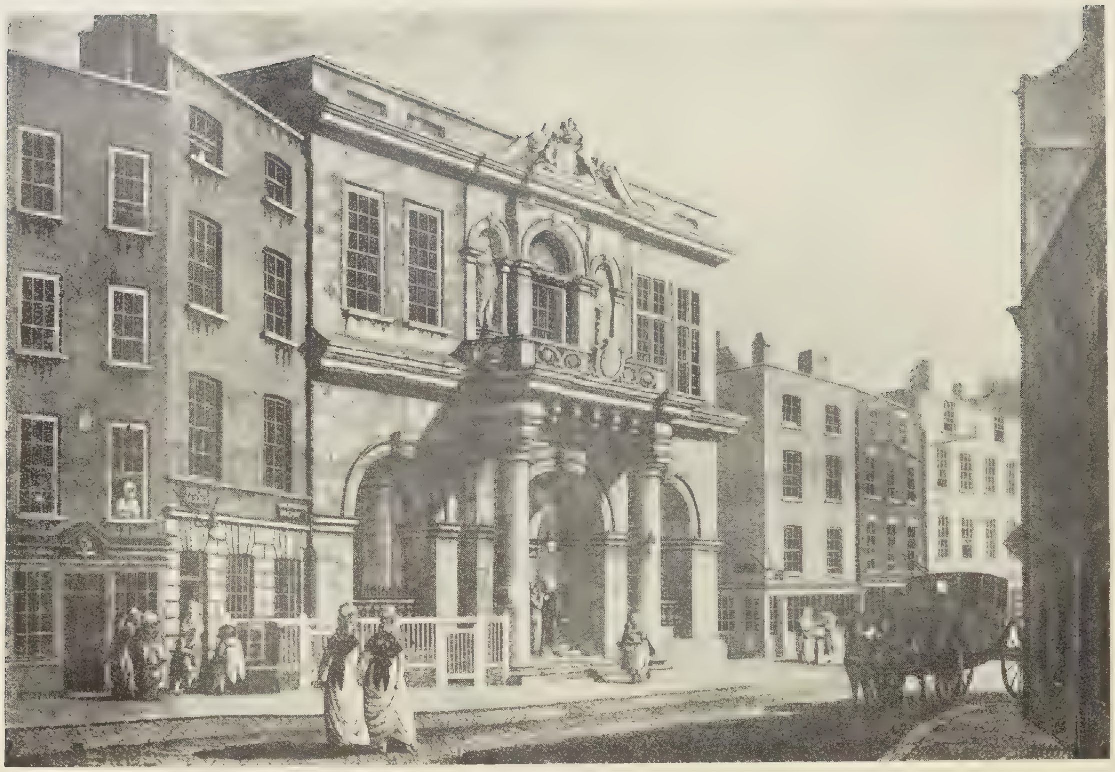


Photo by Army Air Corps]

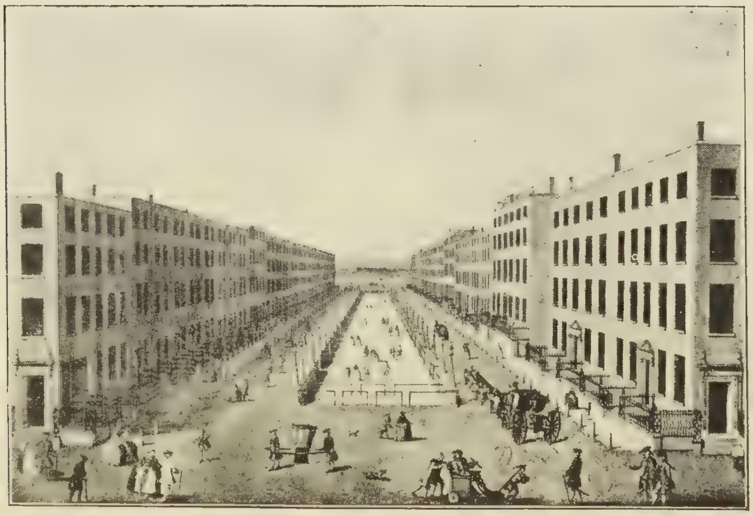
View of River Liffey looking East.

[By courtesy of the Minister for Defence.



[From Malton's View.

The Tholsel.



[By courtesy of the Royal Society of Antiquaries of Ireland.

Sackville Street and Gardiner's Mall, 1755.

I.—ARCHÆOLOGY.

In a Survey of Dublin must be included a consideration of its great historical interest, with a view to preserving tradition, a much valued asset in ancient cities elsewhere.

The growth and gradual expansion of the city, from the small walled town, clustered round Christchurch and the Castle, to the city of the nineteenth century, when it had spread far beyond its ancient limits, can be fairly well traced and understood from the maps of various periods reproduced herein.

The two names by which Dublin was known, both derived from its site—Dubhlinn, or "The Black Pool,"—arose from its situation overlooking the pool or harbour, where the water of the Poddle flowed into the Liffey near the present Grattan Bridge; the other name Baile-atha-Cliath, or "The Town of the Hurdle Ford," refers to its position on the old highway close to where it crossed the river by a ford made of osier hurdles. The site of this ford was near the bridge now leading to Church Street.

The original city was built upon the ridge running parallel with the river, and along this ran a road named at different portions Castle Street, Skinner's Row, High Street, Thomas Street. The city was enclosed by walls with gates at various points, the principal ones being Dame's Gate on the East and Newgate on the West. Running down the declivity of the hill on each side were streets such as Winetavern Street, Bridge Street, and Fishamble Street on the north, with Werburgh Street and Nicholas Street on the South. The site of the city was determined chiefly by the position of the Castle, which was built upon the extremity of the ridge, and hence overlooked the river, with the low ground eastwards, and the ancient ford across the river. For several centuries the city appears to have been confined to the area within the walls, having an outlying portion around St. Michan's Church and the Abbey of St. Mary, on the north side of the river. There was also to the south the district around St. Patrick's Cathedral, extending eastwards nearly to the site of St. Stephen's Green, and embracing the district about the site of the present Aungier Street.

The earliest map showing the topography of Dublin was that of John Speed, dated 1610, showing the city as it was in that year. By examining this map it will be seen that the old streets occupy precisely the same sites as they do at present, their names being found in the earliest deeds connected with property in Dublin. The houses have, however, all been gradually rebuilt and, with the exception of the churches, there is not a single building within the old city area in 1610, now standing. Within the walls were the Priory and Cathedral of the Holy Trinity (Christchurch) and, close by, the Parish Churches of St. John (no longer existing), St. Michael's on the site of the present Synod Hall, St. Audoen's (now in ruins), St. Nicholas, and St. Werburgh's. Outside the walls were the Parish Churches of St. Catherine, St. Bride, St. Michael-le-Pole, St. Peter, St. Kevin, St. Stephen, and St. Andrew, the latter, not on the site of the present church, but close to the Munster and Leinster Bank in Dame Street; St. Patrick's Cathedral, and close by was the Archbishop's Palace of St. Sepulchre, some remains of which exist in the buildings of the Police Barrack in Kevin Street. On the north side of the river, a Norse or

Danish quarter, was the Parish Church of St. Michan, the only one at that time (St. Mary's Parish Church was not built until 1697). The various monastic houses, including St. Mary's Abbey on the north side and St. Thomas' on the south, had been suppressed by Henry VIII. Of St. Mary's Abbey, the only portion which remains above ground is the Chapter House, which can be seen in Mary's Abbey, and abutting on Meeting House Lane.

In Skinner's Row, opposite Christchurch, stood the Tholsel, the centre of the civic government of Dublin, which having fallen into decay was taken down early in the nineteenth century.

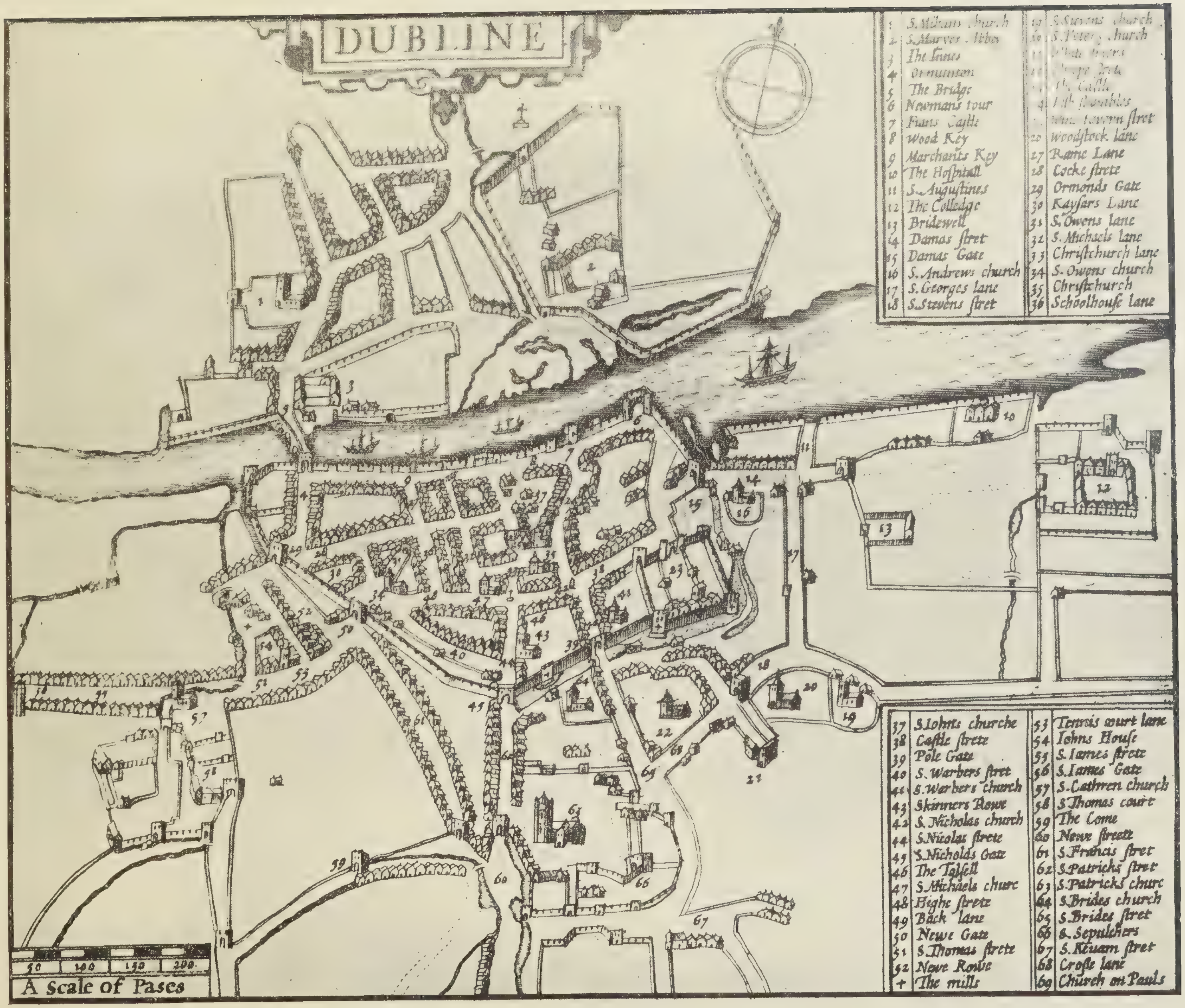
At the foot of Bridge Street was the Old Bridge erected on, or near, the ancient Ford of the Hurdles. This bridge connected the city with Church Street and the main road from the north-west into Dublin. It was for long the only bridge across the Liffey, the present Whitworth Bridge, built in 1816, being erected on its site. In 1670 a wooden bridge (afterwards known as Barrack Bridge or Bloody Bridge) was erected where Victoria Bridge is now. Essex Bridge on the present site of Grattan Bridge was built in 1679, and was taken down in 1755 ; Ormonde Bridge and Arran Bridge being built a little later. Both of these latter were swept away by a flood, and replaced by the present Richmond Bridge and Queen's Bridge.

The map by Speed, while valuable as being the earliest map of Dublin, showing much that we now would be ignorant of, must not be too implicitly relied upon, especially in its delineation of the portions outside the walls, which is defective and misleading. It was apparently not drawn to scale.

In the reign of Charles II. (1660-1685) the first marked extension of the city began, buildings springing up outside the walls between the Castle and Trinity College. The quays began to be formed, so that in 1757 the river through its whole city length was completely embanked. The first attempt at ordered development was the laying out of Stephen's Green, hitherto a large piece of waste ground. An open space for the pleasure of the citizens was reserved, and houses built on the four sides. Movements of this kind were instigated by the then Lord Lieutenant, the Duke of Ormonde, who held office for fifteen years, and under his impetus and active encouragement, the city grew so quickly that in 1673 it was nearly twice as big in area as it was in 1660. During the Viceroyalty of the Earl of Essex many extensions were carried out, chiefly on the north side of the river. Essex Bridge was built in 1679 and Capel Street laid out, thus opening up a new district, which included such streets as Stafford Street, Jervis Street, etc., built upon the lands of St. Mary's Abbey. The developments referred to on the north and south sides between the years 1610 and 1714 are indicated on a map dated 1714.

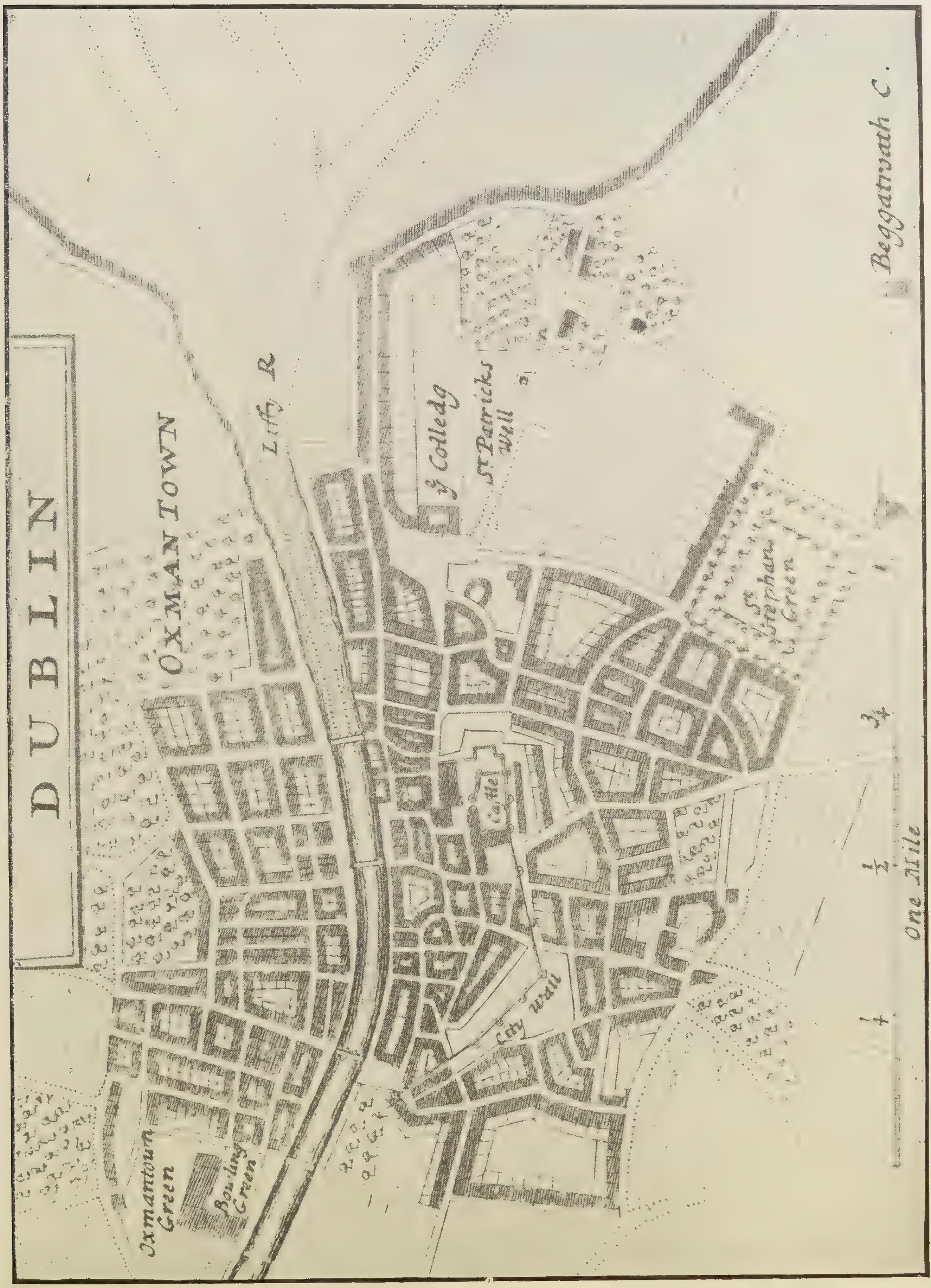
The first theatre in Dublin was opened in Werburgh Street in 1633 by John Ogilby, Master of the Revels, and subsequently another theatre in Smock Alley, at which "Othello" was performed in 1690. The foundation stone of the Royal Hospital, Kilmainham, was laid in 1680 by the Duke of Ormonde, and the researches of Mr. Walter Strickland show it to be by the Irish architect, William Robinson, Surveyor-General, and not Sir Christopher Wren, as formerly supposed.

The rapid development of Dublin was checked by the death of Charles II., and the consequent political disturbances. On the north side there was lesser development than the south. North of Mountpelier Hill and west of Stoney Batter was still unbuilt upon. Dominick Street was not yet built, and north of the Rotunda Gardens was in the same condition. East

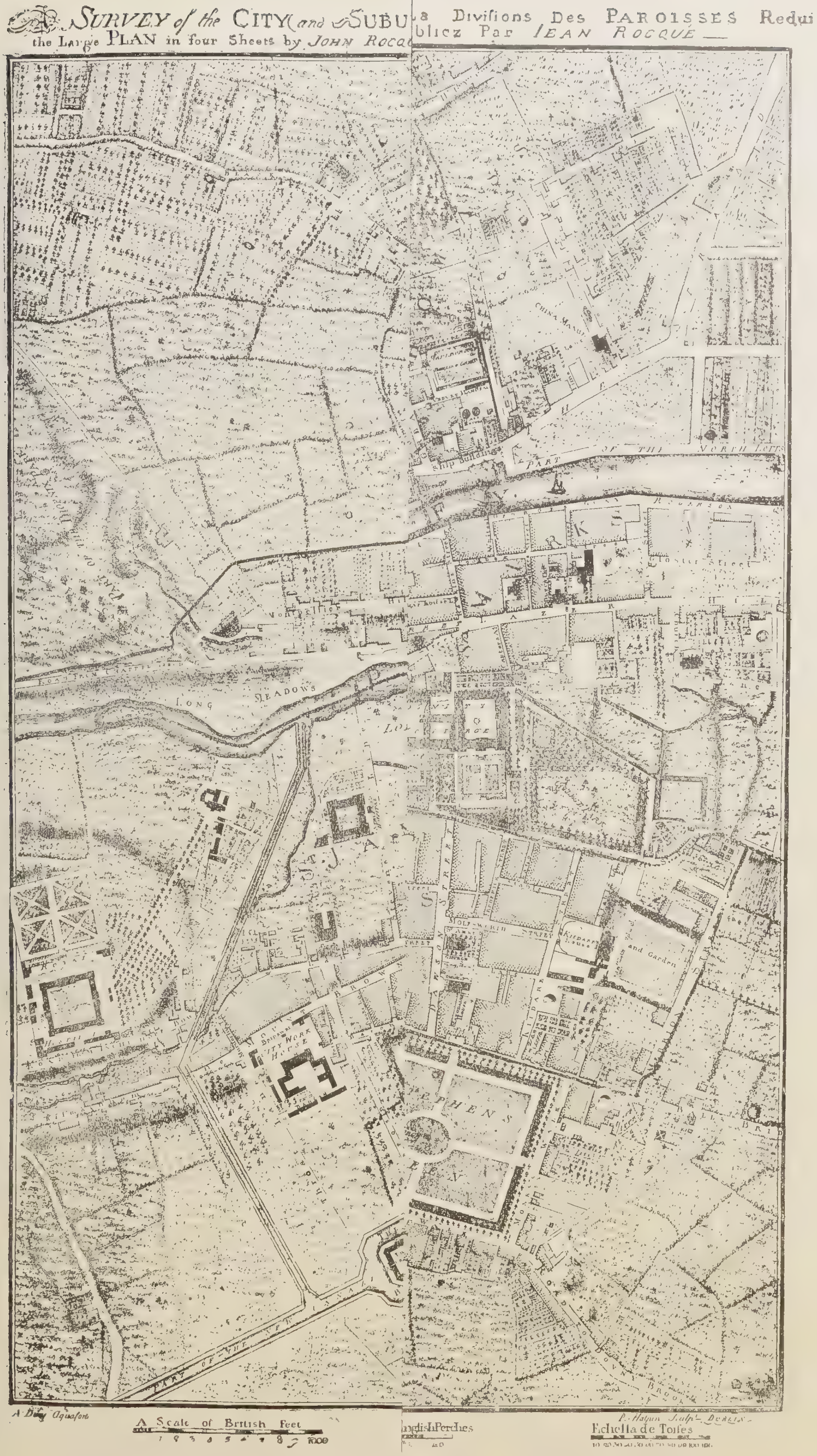


Map by Speed—1610.

PLATE XI.



Map by Moll—1714.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a Divisions Des PAROISSES Redui
the Large PLAN in four Sheets by JOHN ROCQ
bliez Par JEAN ROCQUE
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Ship Buildings
PART OF THE NORTH LOTS
Foster Street
LONG MEADOWS
ST JAMES
Molesworth Street
Kildare House and Garden
City Work House
STEPHENS
BROOK
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A Dury Aquafort
P. Halpin Sculpt. Dublin
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of Marlborough Street and north of the present Custom House Quay was undeveloped. Great Britain (Parnell) Street and Summer Hill with Abbey Street and the Strand were the main routes eastwards. Lower Sackville (O'Connell) Street, Talbot Street and Amiens Street did not exist. On the south side Merrion Square was not yet laid out. East of St. Stephen's Green and Merrion Street was still unbuilt on. The north side of Dame Street had not been widened, and Parliament Street did not exist. On the south side the roads now Baggot Street and Leeson Street were the main routes eastwards. The river was navigable to Essex (Grattan) Bridge, near where the old Custom House stood.

In the reigns of Queen Anne and George I. another active building period set in, and to this era belong many of the buildings which still remain in the older parts of Dublin. The developments in the reigns of George II. and George III. transformed Dublin into a comparatively great city, as shown by Brooking's map of 1728, and subsequently by Rocque's map of 1756.

The rebuilding of Essex Bridge, in 1756, brought about the necessity of making a proper and convenient thoroughfare from its southern end to the Castle. By an Act of the Irish Parliament in 1757, a body was constituted called " The Commissioners for making wide and convenient ways, streets and passages in the City of Dublin " (The Wide Streets Commissioners), and their first work was the laying out of Parliament Street. It was originally proposed that this street should terminate in an open space, but, unfortunately, this idea was abandoned, and the Royal Exchange (now City Hall) was built upon the vacant ground. This building, erected in 1769, occupied the site of old Cork House, which was close to the site of the Church of St. Mary de Dam. The Commissioners now proceeded to the execution of further improvements and town planning. The widening of Dame Street on the north side was carried out, the old Castle Market which stood on the site of the churchyard of St. Andrew (near the present Munster and Leinster Bank) was removed, and a new market built adjoining George's Street and Fade Street, which was replaced in 1882 by the present South City Markets. The next important work was the continuation of Sackville (O'Connell) Street to the river, and in 1796 Carlisle Bridge was built to give connection, by a new street (Westmoreland Street), with College Green and the Parliament House. Prior to this, to get from Rutland Square district to College Green district it was necessary to cross the river at Capel Street. In consequence of this the importance of Capel Street diminished, and Grafton Street became the fashionable shopping centre. In the Sackville Street area of Dublin a radical change took place about the middle of the eighteenth century. Drogheda Street originally extended from Great Britain Street to Abbey Street. About 1750 Luke Gardiner widened it as far as Henry Street, and laid out in the middle of the street an open space, " Gardiner's Mall." This latter was a fashionable promenade, and lasted down to the early years of the nineteenth century. The street, widened and rebuilt, was named Sackville Street. In 1782 the street was continued to the river by the Wide Streets Commissioners, and in 1791 Carlisle Bridge was begun. Sackville Street then stretched in a line from the Rotunda to the Liffey, and the name Drogheda Street disappeared. The Nelson Monument was erected from the design of W. Wilkins, a Norwich architect, but carried out by the Irish architect, Francis Johnston, in 1808, and has since practically divided the street into halves. In the last years of the eighteenth century the new Carlisle (O'Connell) Bridge was opened, replacing the old narrow one.

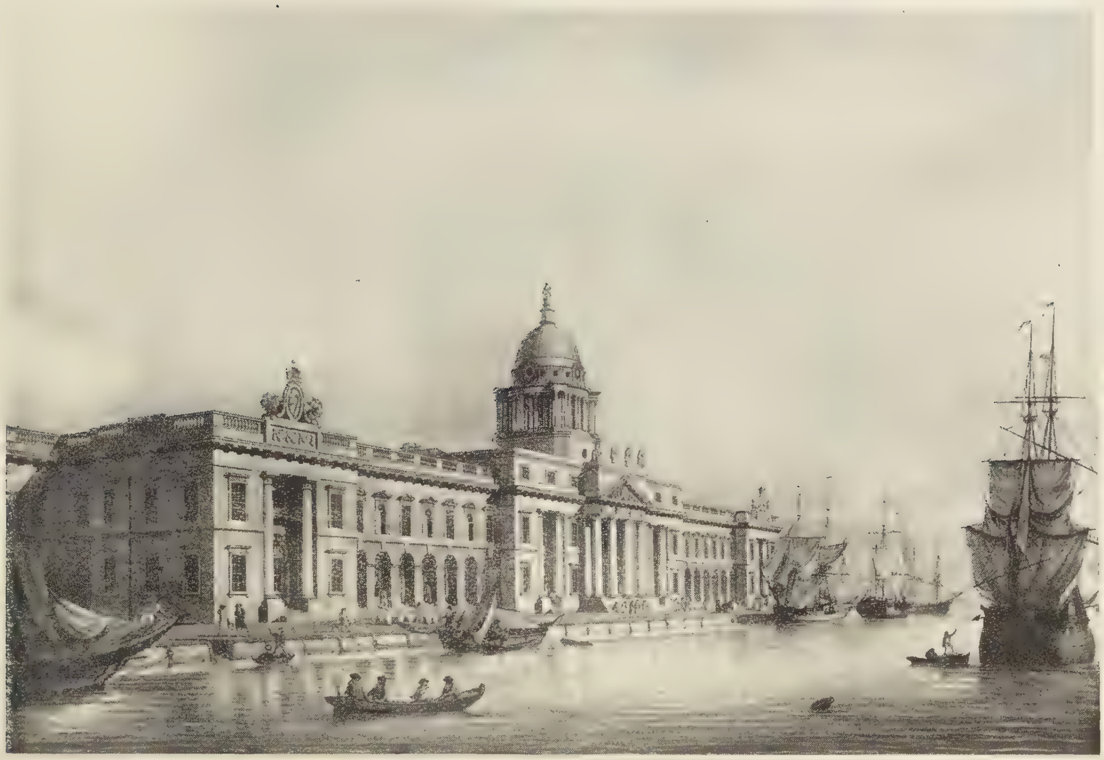
The extension of the city eastwards was considered a mistaken policy, and in 1782 the *Evening Post* protested against " stretching out our Metropolis into swamps," and favoured extension westwards, following the policy of the Duke of Ormonde, but the protest came too late. As development proceeded to the south and the south-east, the north side deteriorated, and Henrietta Street, in which every house was occupied by a peer or person of high official standing, together with other streets, like Dominick Street and Bolton Street, lost their prestige.

Previous to the city's extension eastwards and northwards we find that such streets as Bride Street were referred to as being in the " suburbs." Many of these streets just outside the walls consisted for the most part of private residences, occupied by lawyers and officials on account of their proximity to the Courts, which at that time stood between Christchurch and Skinner's Row. Here also were the offices such as the Chancery Office in Golden Lane, the Rolls Office in Fishamble Street, and the Hanaper Office in Derby Square.

Towards the end of the eighteenth century an effort was made to arrest the decay of the north side as a first-class residential quarter, and to make it a rival of the south side. Mountjoy Square was begun in 1792, and ambitious schemes of development projected for the neighbourhood. One of these, which never materialised beyond the building of a dwarf boundary wall, was to convert a large space at the end of Eccles Street into the " Royal Circus." The sudden stoppage of development in this neighbourhood is noticeable to-day in the abrupt termination of the great blocks of mansions in some streets in close juxtaposition to modern buildings. Rutland Square and Sackville Street, however, maintained their character until well into the nineteenth century. In the year 1850 there were about one hundred families of importance living within the city area.

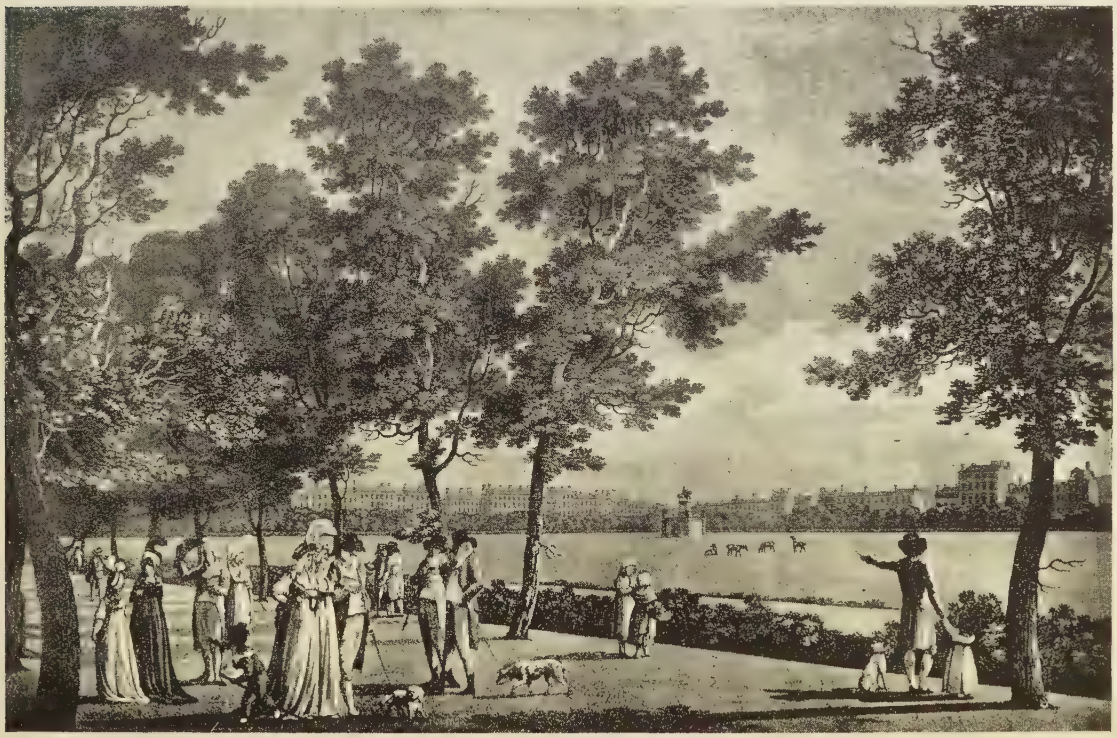
Some of the finest mansions in the city were built in the last three-quarters of the century, such as Tyrone House (now the office of National Education), Ely House (now the property of a Society), Leinster House (now used by the Irish Parliament), Powerscourt House (now in the possession of Messrs. Ferrier and Pollock), Belvedere House (now a Jesuit College), Charlemont House (now the Office of the Registrar-General), Aldborough House (now used by the Post Office), Northland House (now occupied by the Royal Irish Academy) and others. The public buildings of the last three-quarters of that period were Classic in design, of the Italian School, or Neo-Classic, such as the Parliament House in College Green, the West front of Trinity College, the Custom House, the Four Courts, the King's Inns, the Rotunda Hospital, and others in which the architect James Gandon had a part. The earlier decorative plaster work in Dublin was initiated by foreign artists; the later work had inspiration from the Brothers Adam; all was for the most part executed by native workmen, who attained great skill in ornamental stucco work, which occurred in great profusion in the city mansions, and is still greatly admired, but was frankly decorative, and no longer represented structural lines.

The Royal Exchange, erected towards the close of the eighteenth century, and the original design of the Four Courts were by the architect Thomas Cooley, a contemporary of Gandon. The City Council went into occupation of the former in 1852. Another architect of distinction who erected buildings in Dublin was Francis Johnston, the architect of the Royal Hibernian Academy of Arts, now demolished, of the General Post Office, St. George's Church, and the Castle Chapel, etc.; and the following century saw the monumental works of many brilliant architects in Dublin: the Rotunda Hospital and Chapel, by Richard Castle, with



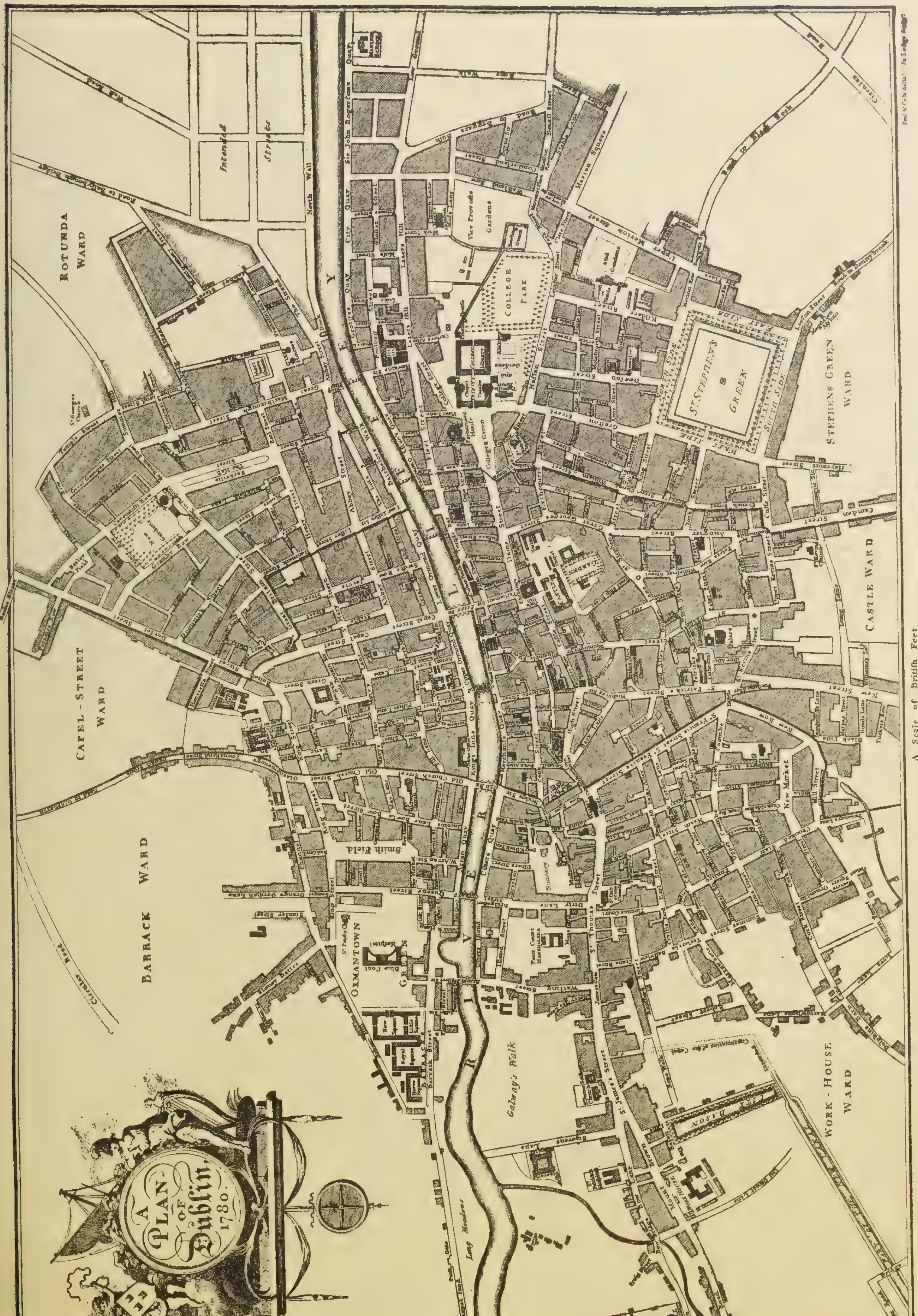
The Custom House.

[From Malton's View.



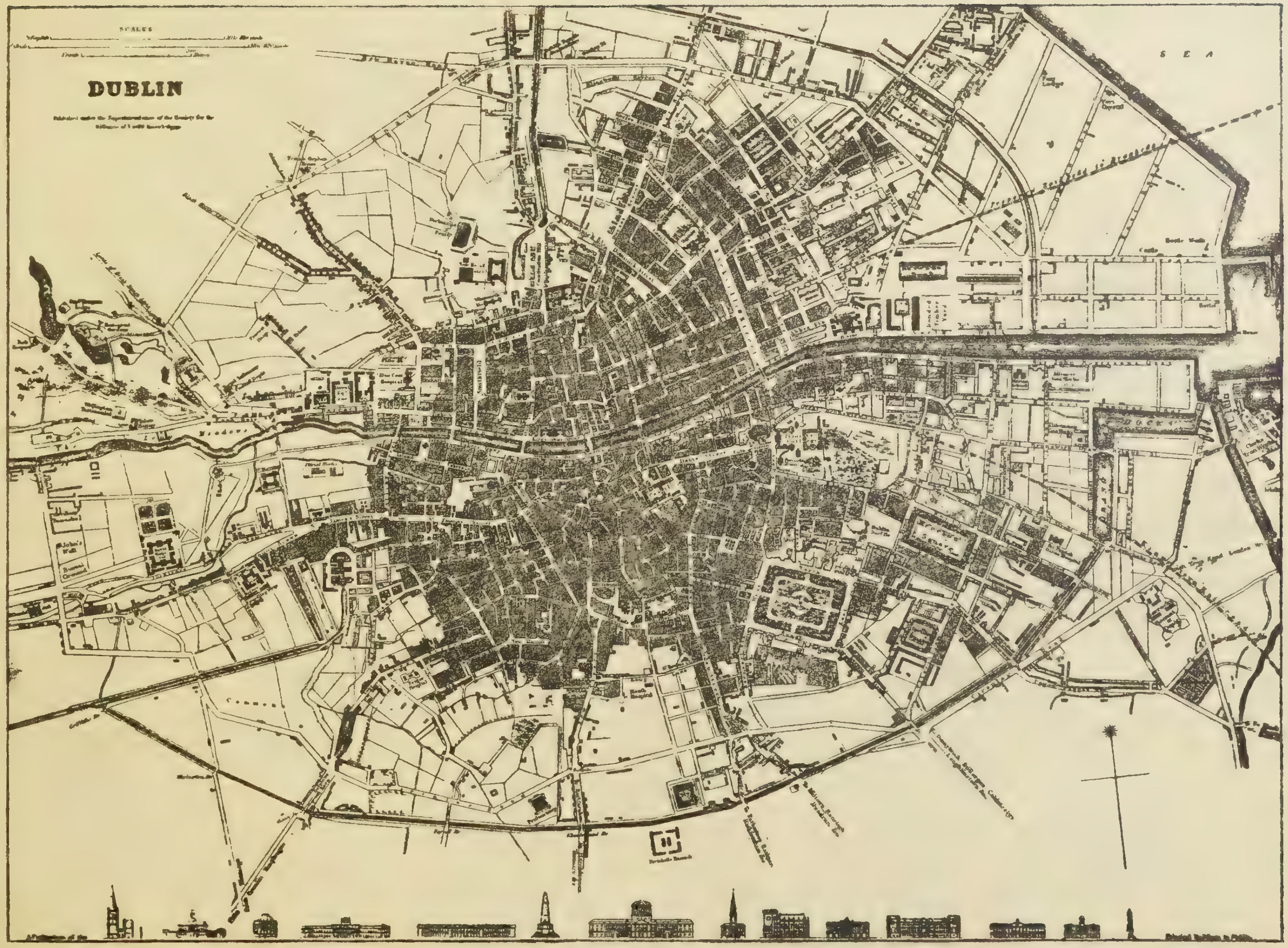
St. Stephen's Green, North Side.

[From Malton's View.



By courtesy of PROFESSOR ABERCROMBIE, Liverpool.

PLATE XVII.



By courtesy of] [PROFESSOR ABERCROMBIE, Liverpool.

Map of Dublin in 1830

the Assembly Rooms by George Ensor, a native architect, which were subsequently added to and altered by Richard Johnston (brother of the architect of the General Post Office), the Bluecoat Hospital, Marine School and Municipal buildings, formerly a bank, by Thomas Ivory; the Commercial Buildings, by Edward Parke.

The advent of railways in the nineteenth century caused the erection of several fine Classic compositions as metropolitan terminals, one of which at the Broadstone, by the architect John Mulvany, belongs to a time when there was still a tradition in building in Dublin. The Kingsbridge, by Sancton Wood; Harcourt Street and Amiens Street, by Wilkinson.

Following the passing of the Act of Union in 1800 and the introduction of railways, the fine old Georgian mansions began to lose their wealthy owners, and a period of stagnation set in, which was followed by the Great Famine of 1847. This calamity, affecting the whole country, had its reflex in Dublin, and the landed gentry disappeared in great numbers from the great squares and residential streets. The process of social and structural decay has been allowed to proceed unchecked for a century, and now the lower uneconomic class occupy these central districts in enormous numbers. It is an awful heritage, and the story of a lamentable social decadence, probably unmatched in any other capital city.

The developments of the latter half of the nineteenth century are not properly within the scope of this Section, but it may be noted that in 1886 a new street, called Lord Edward Street, was formed to make a wide and direct thoroughfare from Dame Street and Cork Hill to Christchurch Place, cutting through the alleys and courts to the north of the historic Castle Street. This latter street had maintained its commercial importance even after the opening of Capel Street, and until the fashionable shopping centre was diverted towards Grafton Street. An interesting example of this is the jewellery establishment of Messrs. West and Son, which started in the eighteenth century in Castle Street, then migrated to Capel Street, thence to College Green, and is now in Grafton Street.

From the middle of this century the extensions of the inner suburbs, and the development of the Urban Districts of Rathmines and Pembroke, etc., resulted in the gradual desertion of city residential areas by the commercial and professional classes. The city continues to move away from its ancient centre, still pushing eastwards and southwards, and leaving the older districts to decay, and each year shows a shrinkage of the now small area of good class streets struggling to maintain in some degree their old-time respectability.

Within the environs of the city may be found many archæological remains, such as the old cross at Kilmainham, the round tower and church tower (fifteenth century) at Lusk; the ruins of the church at Howth, St. Doulough's Church at Coolock; St. Begnet's Church on Dalkey Island; church at Killiney; the ruins of a cross, round tower and church at Clondalkin; the castle at Dunsoghley (fifteenth century); the crosses, church and cairns at Tully, etc.

No country in Europe possesses remains of greater interest to the antiquary than Ireland, and in no country are they so much neglected. The subject of the preservation of ancient monuments has received the attention of the Royal Irish Academy and the Royal Society of Antiquaries, and a draft Bill has been submitted by them for the consideration of the Government.

ARCHÆOLOGY MAP.

Explanatory Note.

The scale of the original Survey Map is 25 *inches to the mile.*

This Map of the central area shows the development of Dublin from the old walled city, indicated by heavy black lines, up to the year 1900.

The old city within the walls was, approximately, 22 acres in extent, and its growth and gradual expansion can be fairly well traced from the early maps, which will be found reproduced in the Archæology section of this survey.

The old bridge on the site of the present Whitworth Bridge, was for a long time the only bridge across the Liffey, and is shown on this Map.

The first marked extension of the city began in the reign of Charles II. (1660-1685), when buildings sprang up outside the walls between the Castle and Trinity College, and the city continued to extend in an eastward direction.

The pink tinting shows the approximate area in 1836, and the blue tinting the approximate area in 1900.

The present city boundary extends beyond the confines of this Map. The buildings of historical interest are shown as follows :—Military, grey ; Ecclesiastical, red ; Civil, blue.

The areas destroyed in the political upheavals of 1916 and 1922 are also shown.

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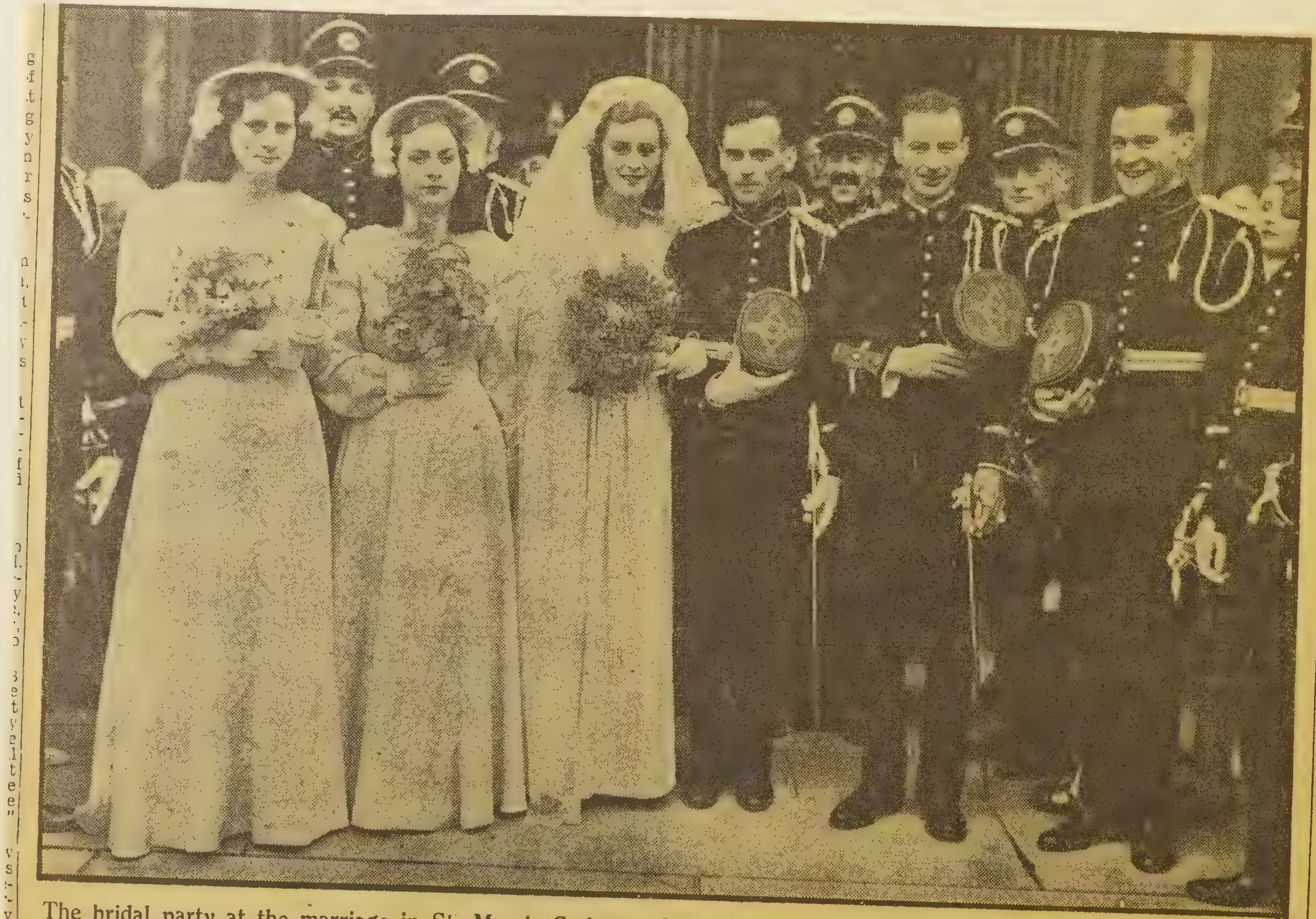


The bridal party at the marriage in St. Mary's Cathedral, Kilkenny, of Lieut. Matthew O'Brien, Irish Military College, Curragh Camp, and Miss Mary M. O'Hara, Tilbury Place, Kilkenny. Bridesmaids were Misses Anna and Breeda O'Hara (sisters); best man was Commdt. R. Frewen, and Lieut. K. Kelly was groomsman.

Why Not Nasturtiums For A Salad?

"The world is so full of a number of things
That I'm sure we should all be as happy as kings——"

lettuce or cress as the salad goes to table.

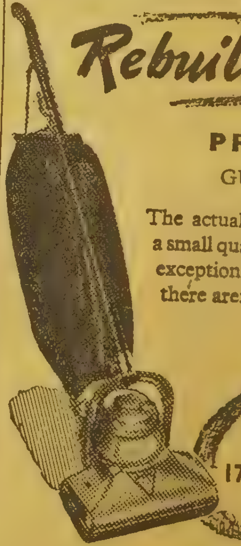
Cos Lettuce

To make such a salad, prepare about 2 cups of string beans, by

part, which makes a lovely pickle, and which can often be used as a substitute for capers—with boiled mutton, etc.

If the berries (or I suppose one should call them seed pods) are picked when just barely ripe and while still a very pale green colour

Garden Co-operation During Holidays



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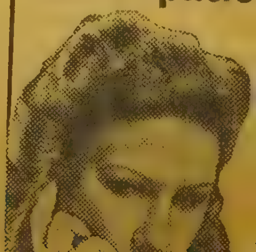


PLATE XVIII.

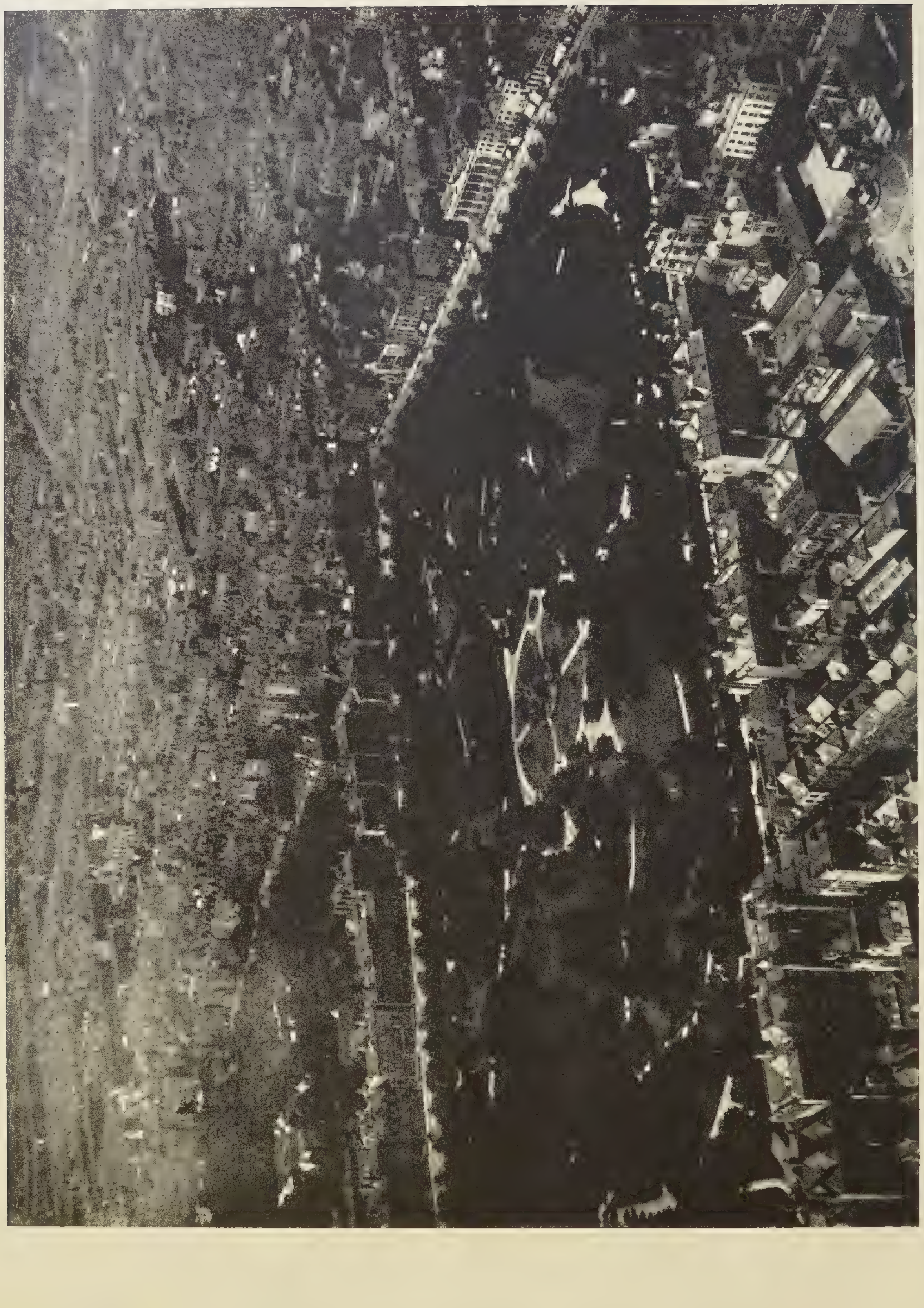


Photo by Army Air Corps]

Aerial View of St. Stephen's Green from North-east.

[By courtesy of the Minister for Defence.

II.—RECREATION.

EXISTING AMENITIES.

It would be necessary to travel far beyond these islands to find a city in such close proximity to so many beauty spots as is the capital city of the Irish Free State. Not only is there a wonderful variety of such attractions, but they are all close at hand, and fairly accessible. The city is situated in the very heart of a beautiful region—a short walk or a brief drive leads to the shore of a bay little less beautiful than the Bay of Naples. No city boasts such charming allurement to the pedestrian. A walk in any direction will keep within his view the sea, mountain and hill, spreading fields, romantic woodlands, serene and peaceful valleys, gentle rivers, rolling streams and waterfalls that enchant the eye.

To the north-east stands the bold, romantic promontory of Howth or Ben Edar, full of historic associations, which affords vistas of landscape and seascape unrivalled anywhere. A little further north may be seen from the shore two most picturesque islands, Ireland's Eye and Lambay. The level hinterland to the west of this shore with the inlets at Baldoyle and Malahide, the cliff walk to Portmarnock, and the picturesque seaside villages such as Skerries and Lough Shinney are as beautiful as Nature could provide of their kind. Nearer the environs of the city are charming little places like Knocksedan, near Swords and Ballyboghill. Still nearer the city are the Green Lanes of Clontarf, the beauty of which inspired Piccolomini to write his haunting melodies. Along the banks of the Tolka, excluding Ballybough and Drumcondra, are beautiful scenes, at Glasnevin, where Addison wrote, and the cascade at Finglas.

To the west is Lucan, best approached by way of the Strawberry Beds, with a remarkable view of the Liffey from Knockmaroon Hill, and the scenery right along the riverside is deserving of special mention. The river, although marred by ugly buildings in places, wends its way through the Lucan Demesne, and from Chapelizod westwards is very lovely. Closer to the city is the Phœnix Park, the finest public Park in Europe, with its varied charms, its superb drives and walks, its splendid stretches of grass, its clustering plantations, its great playing fields, its meandering roads passing through grooves and glens, and its rich and luxurious private and public gardens. It is situated relatively to the city, and is similar to the Bois de Boulogne of Paris, or the Prater at Vienna, and is at least as beautiful.

To the south-west is the Valley of Glenasmole, which is a short distance from Rathfarnham or Tallaght, and the Pine Forest, which in recent years has been sadly injured by the woodman's axe. Here also is Lord Massey's beautiful demesne, and the picturesque places, Kilmashogue and Ticknock.

Nearer the city and along the banks of the Dodder from Donnybrook to Rathfarnham are beautiful scenes often recorded by the painter. A more attractive piece of scenery could hardly be found than the stretch of river and cascade at Orwell Bridge, mingling both river and woodland panorama. The neighbourhood around Rathfarnham and Templeogue, where Charles Lever wrote his novels, is also worthy of mention.

To the south and beyond the Dodder are the beautiful districts of Dundrum, Carrickmines and Foxrock, with the Dublin Mountains as a background. Near the village of Loughlinstown are the Bride's Glen and the Scalp, noted beauty spots on the river which flows through the countryside before entering the bay near Killiney.

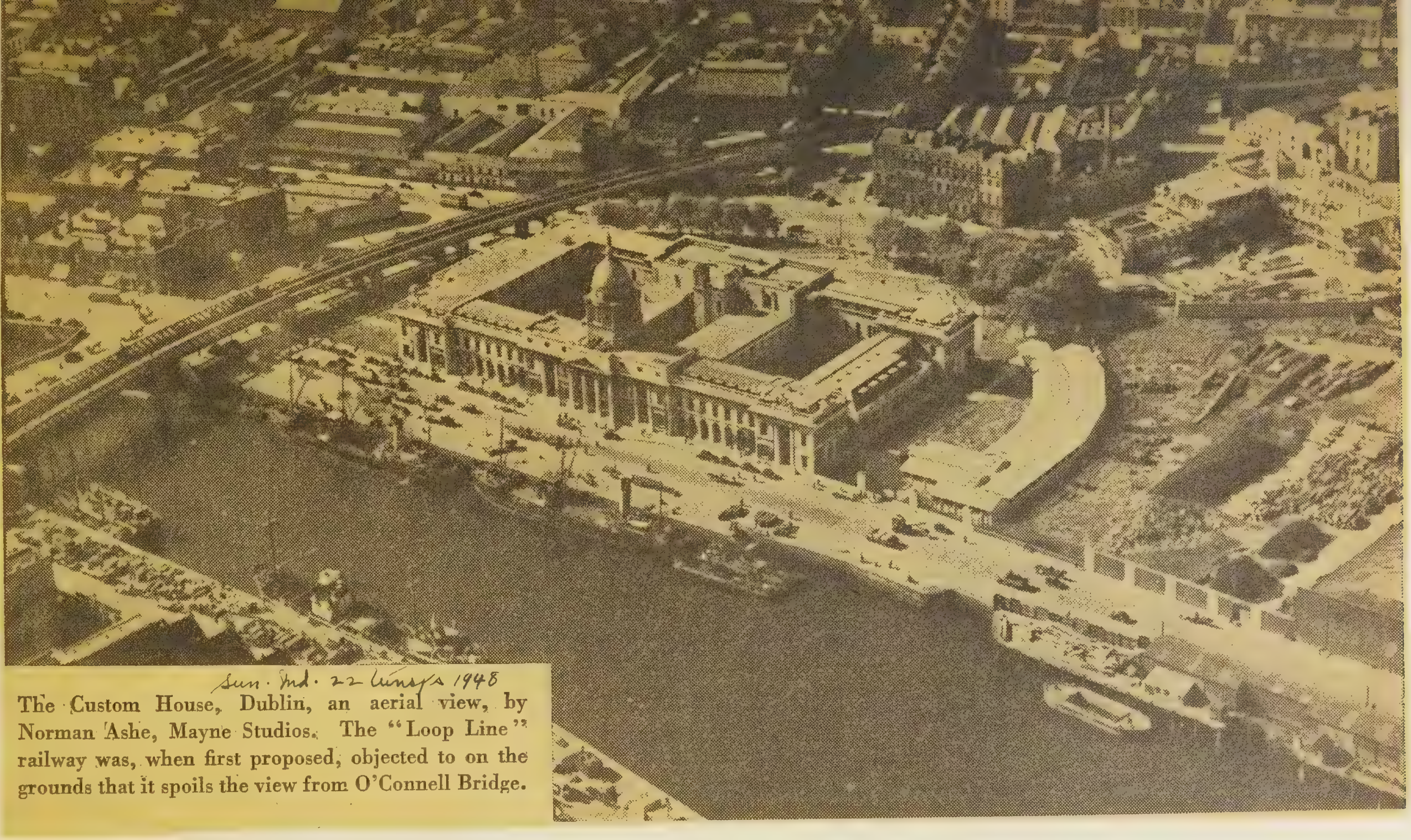
To the south-east is Killiney, famed for its beautiful hill, from which there is a remarkable view of the Vale of Shanganagh, the rising ground of Glenageary, and the seaside resort of Dalkey, with its little island off the coast.

The wonders Nature provides in the environs of Dublin are hardly realised by many of the citizens; and so little care is bestowed upon them, it would appear that they are not appreciated. Without some foreseeing guardianship and a fuller realisation of their intrinsic value, it is to be feared that these hills and glens and river banks will not remain as beautiful a heritage for the pleasure of posterity.

OPEN SPACES AND PLAYGROUNDS.

The value of fresh air and gardens has frequently been urged from many platforms and in many places. Life is more healthy in places where the fresh winds of heaven can blow, than where they are sullied by clouds of smoke, and lost in narrow streets. Between rows of densely packed houses in closely-built towns the air must be stagnant, and the light of the sun dimmed. This is one reason why city streets for residences are being deserted by people who have the means to live away from them. The head of a family who lives in a narrow street, unless he is compelled to do so, is taking unnecessary risks with his own health, and in no small degree spoiling the chance in life of his children. Every day the quickening and cheapening of means of transport is making it possible for larger numbers to live in the suburbs of towns, or in the open country itself. It is to be hoped that ultimately towns will cease to be places of residence at all, and will be merely used as convenient centres for work and business. For the immediate future, however, the fact must be faced that congested towns will exist, and are likely to be inhabited by certain classes for many years to come. All that can be done is to mitigate their disadvantages by providing as many open spaces as possible. Money spent upon open spaces and playgrounds is well spent, for it helps to produce healthy citizens. These amenities promote actual physical efficiency, and have, therefore, a material value by providing the prime necessities of healthy life—fresh air and sunshine.

In Dublin, bad and congested housing causes the children of the poor to convert the streets into playgrounds. The danger of this practice is referred to frequently in coroners' courts, and it is especially noticeable during the school holiday periods. The need in the city for places of convenient outdoor recreation for the working classes is apparent to all citizens. Every citizen should have a variety of places to go for relaxation after the day's work. There cannot be a contented population until this is so. The young men and women of Dublin would not in thousands patrol the city streets on summer nights if they were inhabitants of a well-planned modern city. A striking example of the effect upon children of living in fresh air was recently demonstrated by the Medical Officer of Health for Hendon, Middlesex, when he examined the



Sun. Ind. 22 Lúnasa 1948

The Custom House, Dublin, an aerial view, by Norman Ashe, Mayne Studios. The "Loop Line" railway was, when first proposed, objected to on the grounds that it spoils the view from O'Connell Bridge.

PLATES XIX., XX.

Photo by] [Lawrence.

People's Gardens, Phœnix Park.

THE W.N.H.A'S.
CHILDREN'S FOLK DANCING FESTIVAL.
IN EARL IVEAGH'S GROUNDS JUNE, 1924.

By courtesy of] [THE MARCHIONESS OF ABERDEEN AND TEMAIR.

Children's Folk Dancing.

Photo by] [Neville Cook.

Yachting, Dublin Bay.

Photo by] [Lawrence.

Killiney, Co. Dublin.

children in the schools of his district with a view to comparing the development of those who live in the Hampstead Garden Suburb with others. He has found in the latter place that children of six to eight years of age on the average are heavier and more than an inch taller.

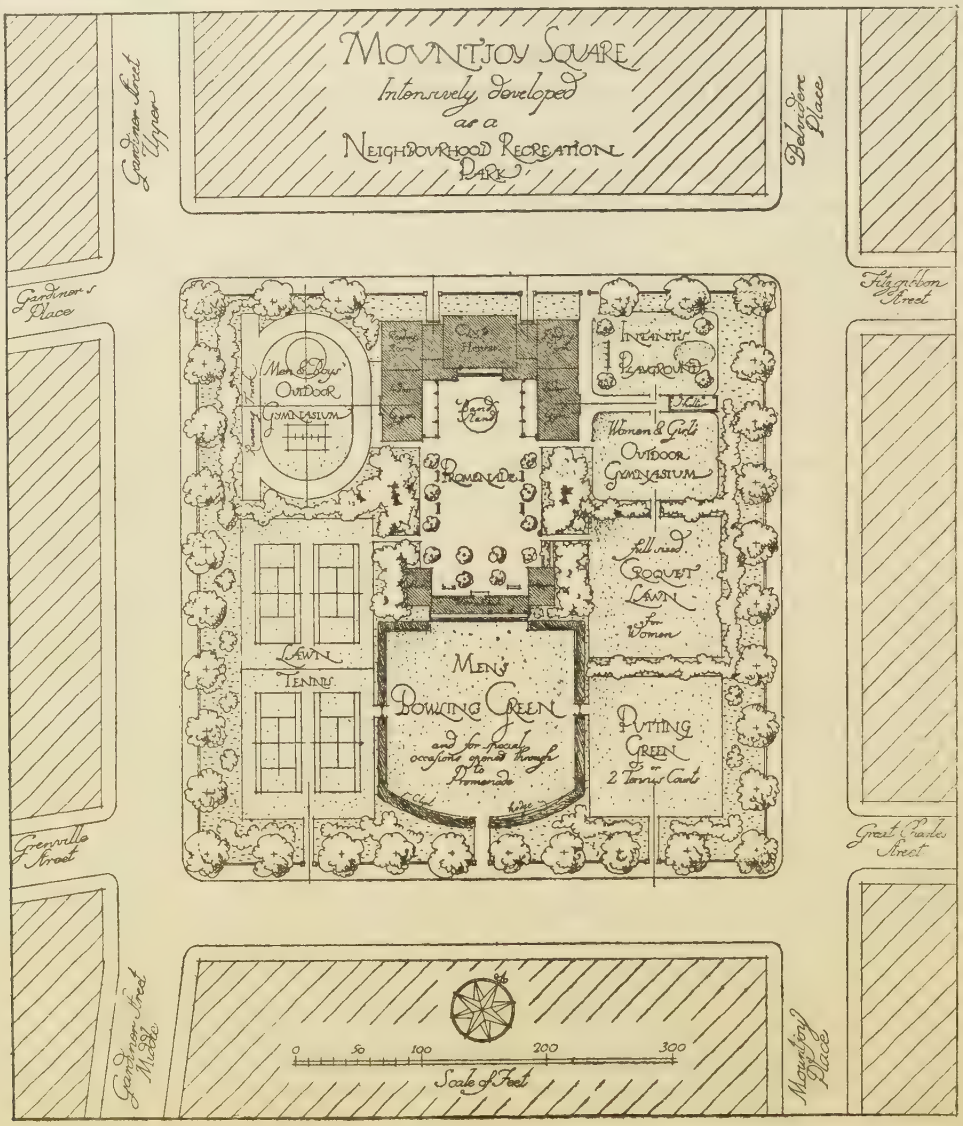
In British and American cities organised municipal recreation is now becoming an established fact. The playground movement has reached enormous dimensions in the United States. In that country they combine all amusements, such as dances, concerts, swimming, boating, gymnastics, etc., and even provide large pools of water, nine inches deep, in which children paddle while their mothers sit watching them from tree-shaped seats. All the playgrounds are properly supervised and under municipal control. In Chicago one alone of these playgrounds cost £360,000. The American view of this matter is that it is cheaper to spend such sums on playgrounds, for the benefit of the young especially, rather than to spend it in catching criminals. The value of playgrounds as a means for crime prevention was tested in one American city, where the location of all playgrounds in the city was charted, and a dot was placed at the residence location of each child who had been brought before the Court. The result was that a practically spotless area surrounded each playground. In one of the States there is a regulation that every city of 10,000 inhabitants must have at least one public recreation centre properly equipped, and for larger cities an additional centre for every 20,000 inhabitants. In these centres everything is done in the best manner, with permanent buildings and costly equipment. The two most notable are Armour Square, Chicago, and Happy Hollow, Philadelphia. In England the London County Council and some provincial municipalities are providing such facilities on a smaller scale. The parks in London—Battersea, Dulwich, Finsbury, Southwark, and Victoria—provide recreation facilities which show a financial profit. It is clear that park administration in England is tending towards wider and more far-reaching responsibilities. A more recent development in America arising out of town-planning is the linking up of great nature reservations outside the city by means of parkway routes, supplemented at intervals by neighbourhood centres for those whose age, health, or duties keep them near to their particular districts. A suggestion of this kind, designed by Mr. Patrick Abercrombie, architect, is illustrated herein. The rivers Tolka and Dodder provide in Dublin ideal means for creating such parkways in close proximity to the city. Were it not for the abnormal area of the Phœnix Park, viz., 1,752 acres, Dublin would be very badly provided with park facilities. Its value from the hygienic standpoint is reduced by the fact that this large area is concentrated in one of the outskirts of the city. The total acreage of all the other parks or planted open spaces within the city or on the fringe is only 227 acres. The park areas in acres of the following cities are: Edinburgh, 1,836; London, 6,652; Paris, 5,397; Philadelphia, 5,278, all within the municipal area. The American Park and Outdoor Association twenty years ago advocated as an ideal 1 acre to 200 inhabitants, and on this basis Dublin should possess 1,500 acres within the municipal area. Already Edinburgh has 1 acre to 229 inhabitants, Sheffield 1 acre to 500, Leeds 1 acre to less than 250, and a table was published recently giving the acreage of public open spaces of sixty-seven American towns with populations from 5,000 to 200,000. The average is one acre of open space to 170 persons. It cannot be hoped nor is it necessary that the precincts of the Phœnix Park will remain for all time undeveloped as a residential neighbourhood. Owing to its size and location it has the effect of cramping all development on the north-western side of the river

Liffey. There could be no reasonable objection in the near future to introducing a tramway or 'bus service along its main avenue to open up districts further west. The only adequate city park in Dublin is in Stephen's Green, and this certainly is ideal from many standpoints.

The large central areas already occupied by public institutions having antiquated buildings might be set apart, in the future, for transformation into properly equipped recreation centres. Normal city development is retarded in other respects by the presence of these areas.

The citizens should be fully alive to the necessity for a spacious environment, an amplitude of open areas for parks and recreative purposes as tending towards a gradual and sustained improvement in the health and physique of all. The problem of Society now is to see that the working-man has an opportunity to enjoy his leisure hours in a wholesome way; and, as a community, our desire should be to reach out towards a higher standard of civic life.

PLATE XXIII.



[By courtesy of Professor Abercrombie Liverpool.

PARKS AND OPEN SPACES.

Dublin and Environs.

PARKS.

PARKS.	LOCATION.	ACREAGE.	GAMES ACCOMMODATION.	OTHER AMENITIES.
Phœnix Park ..	N.W. of Dublin City	1,752 acres ; 1,350 acres open to public.	Thirteen Gaelic Football and Hurling grounds, twenty-four Association Football grounds, two Cricket, two Hurling and one Polo grounds ; Cycling, Motoring, and Horse-riding	Regular Band Performance in summer ; splendid floral displays in People's Gardens ; Zoological Gardens ; fine herd of deer ; perfect road surfacing ; shelter and refreshments.
Stephen's Green Park	South Central City	22½ acres	Nil	Occasional Band Performance in summer ; floral displays ; children's playground ; lake and waterfall.
Trinity College Park (Private)	Central City ..	35 „	Football, Cricket and Tennis	Annual University Sports.
Fairview Park ..	N.E. of Dublin City	53½ „	One Football field ..	Occasional Band Performance ; layout still incomplete.
Herbert Park ..	S.E. of Dublin City	35 „	Two Football and Hockey grounds ; twelve Tennis courts	Formerly Band Performances. Well laid out with public roadway through ; lake and shelters ; seating accommodation very extensive.
Dalymount Park (Private)	N.W. of Dublin City	5·12 „	Football (Association) ; Tennis	——
Croke Park .. (Private)	N.E. of Dublin City	12¼ „	Gaelic Football, Hurling ..	Athletic and Cycling Meetings
St. Patrick's Park	South Central City	2·7 „	Nil. (Play-centre adjoining)	Well laid out, with shelters.
Ringsend Park ..	Pembroke Urban District	31 „	Two Football grounds and Hockey ground	Nil.
Harold's Cross Park	Rathmines Urban District	3 „	Nil	Well laid out, with shelters
Stoneview Park	Dun Laoghaire Urban District	4½ „	Football and Handball ; unsuitable for Tennis	Occasional Band Performance in summer ; well laid out.
Dunleary Park ..	Dun Laoghaire Urban District, Sea Front	2½ „	Football ..	——
People's Park ..	Blackrock Urban District	14 „	Football and Cricket grounds	Occasional Band Performance in summer.
Sorrento Park ..	Dalkey Urban District	—	Nil	Nil.
Victoria Park ..	Killiney Urban District	39 acres	Nil	Remarkable views ; shelter and refreshments.

OPEN SPACES.

Dublin Municipal Area.

Zoological Gardens	—	Queen's Square (Public)	—
Botanic Gardens	—	Halston Street (Public)	—
(*See* under Education.)		Blessington Street (Public)	5 acres
Merrion Square (Private)	13 acres	Hill Street (Public)	—
Fitzwilliam Square (Private)	3 ,,	Dollymount (Public)	—
Mountjoy Square (Private)	4 ,,	Oblate, Inchicore (Public)	—
Parnell Square (Private)	5·15 ,,	Church Street	Housing areas
Leinster Lawn	2·75 ,,	Chancery Street	
Christchurch Place	·5 ,,	Linenhall Street	
King's Inns (Private)	5·43 ,,	Mount Brown	
Royal Hospital (Private)	67·0 ,,	Ormond Market	
Berkeley Road (Private)	1 ,,	Spitalfields	
Great Western, N.C. Road (Private)	2·8 ,,	Fairbrother's Fields	
Marino Crescent (Private)	2·3 ,,		

Pembroke Urban District.

Sandymount Green (Public), 3 acres.

There are three small private open squares in this district, the total area being, approximately, 1½ acres.

Rathmines Urban District.

Grosvenor Square (Private)	3½ acres	Mountpleasant Square (Private)	4½ acres
Harold's Cross Park (Public)	3¼ ,,	Kenilworth Square (Private)	7¼ ,,
Belgrave Square (Private)	3 ,,	Brighton Square (Private)	1½ ,,
Palmerston Park (Public)	6¼ ,,	Dartmouth Square	2 ,,

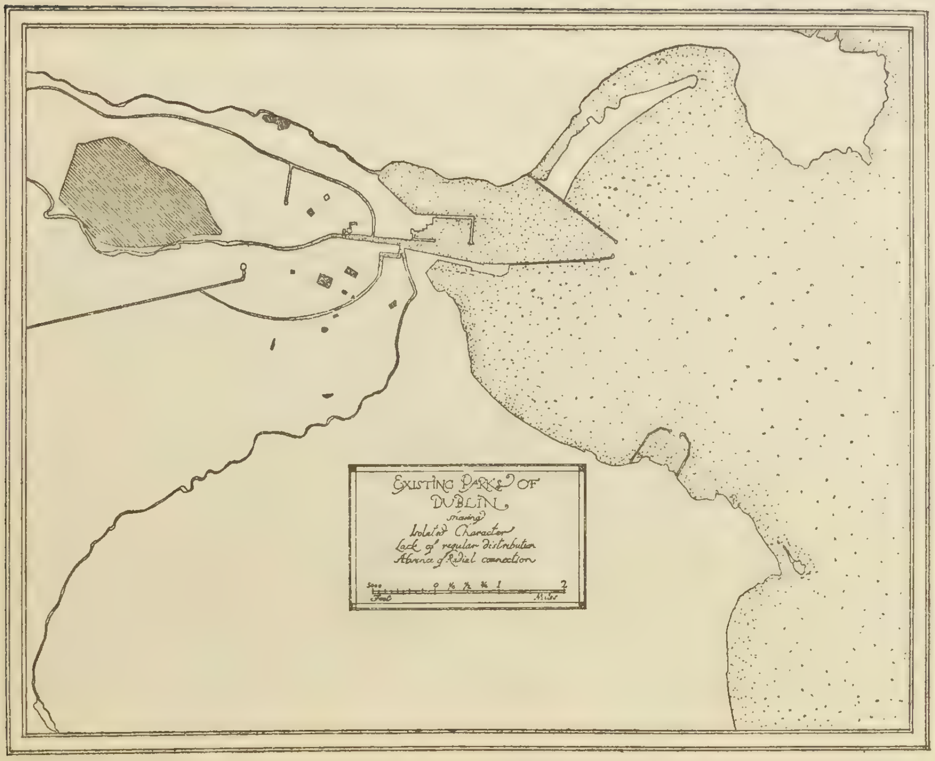
Blackrock Urban District.

Belgrave Square (Monkstown) (Private), 1¾ acres; Brighton Vale (Monkstown) (Public), 1¼ acres.

Dun Laoghaire Urban District.

Clarinda Park	(Private)	4 acres	De Vesci Terrace	(Private)	3 acres
Crosthwaite Park		2½ ,,	Opposite Longford Terr., Monkstown		2 ,,
Royal Terrace		9 ,,			
Eden Park		1½ ,,			

PLATE XXIV.



[By courtesy of PROFESSOR ABERCROMBIE, Liverpool.

In Dublin and its environs some provision has already been made in equipped play-centres. The best of these is the Iveagh play-centre in Bull Alley, adjoining St. Patrick's Park. This contains eleven class-rooms and three large halls, one of which contains a stage for physical drill and entertainments ; also rooms for superintendent and caretaker's quarters, with cloak-rooms, lavatories, etc. The building is spacious, well planned, and of handsome architectural character. It is open five evenings and one morning each week (except during holidays) for children between the ages of three and fourteen years. As refreshment, cocoa and buns are provided. The children are taught dancing, singing, basket making, mat weaving, woodwork, drawing, painting and all kinds of needlework, etc. The total attendance for 1922 was 173,254 on 216 days, an average of 804·88 per day. It is supervised by a Lady Superintendent and teachers. The Earl of Iveagh, Chairman of the Trustees, has endowed it with a gift of £10,000, and the erection of the building is due to his munificence.

There is no municipal play-centre.

In Pembroke Urban District there are municipal play-centres partly equipped at South Dock Street (South Lotts), Stella Gardens (Irishtown), and Harmony Avenue (Donnybrook).

In Blackrock Urban District there is a similar centre at Temple Road.

In Dun Laoghaire Urban District a similar centre exists at Library Road (George's Street, Lower).

FOOTBALL FACILITIES.

For Football (Rugby), grounds are laid out at Lansdowne Road (Lansdowne and Wanderers), Trinity College Park (Dublin University), Terenure (University College), Donnybrook (Bective Rangers and Old Wesley), Blackrock (College). The Irish Rugby Football Union hold twelve acres at Lansdowne Road, and the Leinster Branch six acres at Donnybrook. These, and the two University grounds, are all the grounds available. The other clubs rent from private owners. This makes a total of about forty to forty-five acres available, and appears at present to be sufficient. There are roughly 850 players in Dublin and county, but the roll of the clubs includes many non-playing members who obtain free entrance to the matches. This form of Football is much favoured by the middle and professional classes in Dublin.

For Association Football, grounds are laid out at Shelbourne Park (Shelbourne), Dalymount (Bohemians), and Dolphin's Barn (James's Gate and Jacob's). The Association hold in all about twenty-two acres, and other clubs use the Phœnix Park. There are about 140 clubs in Dublin, embracing about 3,750 members. The available ground in the Phœnix Park is inadequate. A considerable area of ground exists at Fairview Park, which is devoted to allotment gardening of a poor description.

For Gaelic Football, grounds are laid out at Donnycarney, Croke Park, and Templeogue, with fifteen pitches in the Phœnix Park. There are about eighty-two clubs affiliated to the Gaelic Athletic Association. The deterrent to expansion is the difficulty of obtaining playing ground at reasonable figures.

There are approximately 100,000 members.

CRICKET FACILITIES.

For Cricket, grounds are laid out at Phœnix Park (Phœnix, Civil Service, Workingmen's, Garrison, etc.), Rathmines Road (Leinster, Rathmines), Sidney Parade (Pembroke), Clontarf (Railway Steam Packet), College Park (Dublin University), Terenure (University College), Clontarf (Belvedere and Mountjoy), Blackrock (College), Castleknock (College), Belgrave Square (High School), Terenure (College). Comparatively little cricket is played now in Dublin. No new clubs are being formed, and some of the old ones have dropped out. The British Army and R.I.C. were supporters of cricket.

HOCKEY FACILITIES.

For Hockey (International) there are eighteen clubs in Dublin and District, each club having from forty to sixty members, with grounds at Park Avenue (Railway Union), Trinity College (Dublin University), Terenure (Monkstown), Foxrock (Dun Laoghaire), Dun Laoghaire (Grammar School), Fairview (Avoca School), Ballsbridge (College of Science), Serpentine Avenue (College of Surgeons), Bird Avenue (Fairview C.Y.M.S.), Clonskeagh (Rosemount), Dalkey (Portrane), Bray (Rathgar Scouts). Other clubs have no grounds of their own, and convenient grounds are badly needed, as the game is increasing in popularity. The Leinster Hockey Union has twenty-six affiliated clubs and four schools.

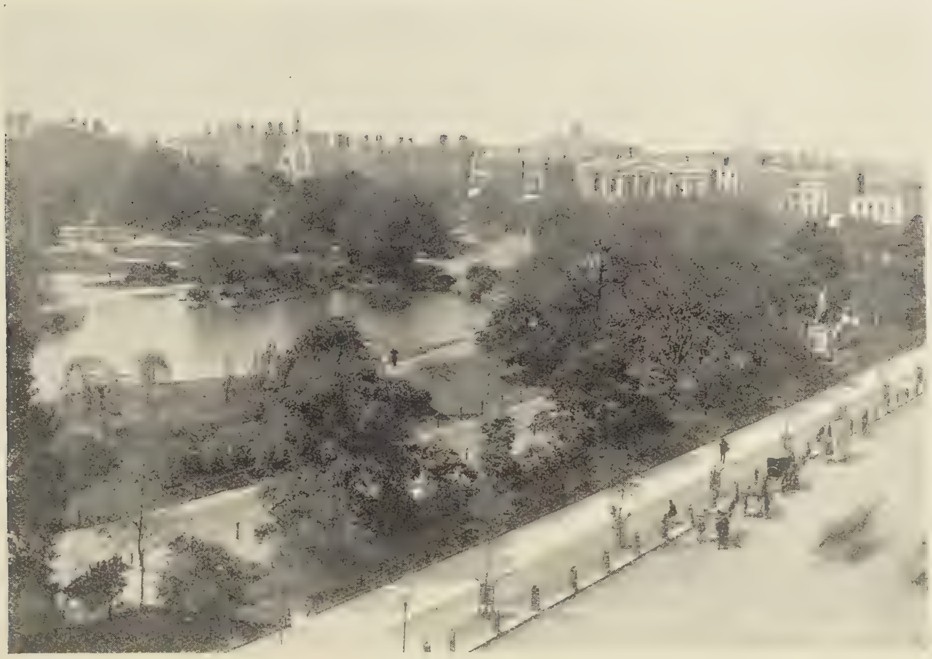


Photo by] [Lawrence.

St. Stephen's Green from North-east.

Photo by] ["The Irish Times."

Golf, Woodbrook, Bray.

TENNIS FACILITIES.

For Tennis, which has attained great popularity in recent years, there is a great inadequacy of playing facilities. Tennis courts established in the city and environs, although numerous, are overcrowded. The existing clubs embrace about 4,500 members, and it is stated on authority that the number of citizens wishing to play reaches about 35,000. Public tennis courts are provided in Herbert Park, but are not encouraged in Phœnix Park, except to a limited extent.

POLO FACILITIES.

For Polo there is only one club in Dublin, and it has accommodation at the Phœnix Park. The All-Ireland polo club has about twenty-four playing members, and formerly there were several polo clubs affiliated to it. It has been suggested that in order to develop polo in this country, where horse-breeding is of a high order, the Dublin Club should keep ponies for hire to people who wished to play, but could not afford to purchase them for the purpose. To enable this to be done funds might easily be raised from the erection of a new stand at the ground, and from the hiring-out of chairs at the matches. With these facilities large attendances of spectators could be expected, and a greatly increased number of players.

GOLF FACILITIES.

For Golf there are widespread facilities in Dublin and district. Links are to be found at Portmarnock (18), Sutton (9), Howth (9), Dollymount (18), Clontarf (18), Hermitage (18), Lucan (9), Milltown (18), Castle (18), Rathfarnham (9), Foxrock (9), Dun Laoghaire (18) and Killiney (9), with others more remote, but situated in the county. The figures given indicate the number of holes. Almost all of the clubs throughout the country are affiliated to the Golfing Union of Ireland. In England and elsewhere municipal golf links have been established. In Sheffield a charge of one shilling is made for a round of 18 holes, reduced on certain days in summer to *6d.* A year's season ticket costs £2 *2s.* o*d.* Leeds had found it well worth while to acquire land for the purpose, and the three golf courses it had laid out were paying propositions.

HANDBALL FACILITIES.

For Handball there are very limited facilities within the area under review. There are existing alleys at Ballymun Road, Green Street and High Street, as well as at Beggars' Bush, Portobello, and Collins Barracks, and the Dublin Metropolitan Police Barracks. The small ground space occupied makes it a suitable recreation for city areas, but the equipment is costly.

SWIMMING FACILITIES.

For Swimming the facilities within the municipal area are very limited, but outside for the summer season they are fairly adequate, though usually with poor equipment. There are municipal baths at Tara Street, the Iveagh Trust at Bride Street, and Clontarf baths at Clontarf. At Howth, Blackrock, Seapoint, Dun Laoghaire, and Dalkey there are baths or bathing facilities. Those at Blackrock and Dun Laoghaire are well equipped. The Dun Laoghaire (Sandycove) bathing place is well equipped. In 1922 the number of attendances at the Iveagh Trust was 37,955, and at Tara Street in 1924 the number was 66,836. The Irish Amateur Swimming Association comment upon the totally inadequate facilities in the way of swimming baths for the city of Dublin, and suggest that public baths should be constructed at Manor Street, Drumcondra, James's Street, Ringsend, and Rathmines; also open-air baths at Blessington Basin, Ballsbridge, and sea baths at Merrion, in order to bring Dublin into line with modern requirements. There are twenty-three clubs within the Dublin area, embracing about 3,000 members.

HORSE RACING FACILITIES.

The city environs provide three racecourses—at Baldoyle, Phœnix Park and Leopardstown. The acreage of Baldoyle is 127 acres; Phœnix Park, 120 acres; Leopardstown, 230 acres, with nine days' racing, seventeen days' racing, and fourteen days' racing respectively. The stand accommodation is good in all cases, but it is difficult to give an average of attendances, as the field and the weather are uncertain. The cost of travelling to these courses is said to be excessive, especially railway fares. The picturesque situation of Leopardstown (Foxrock Station) is worthy of note. The facilities for horse racing are at present adequate.

(*Recreation facilities for Schools will be found under Education Section.*)

THEATRES AND CINEMAS.

There is ample provision of theatres and cinemas within the area under review. It is stated that the total entertainment tax paid during the year 1923 was approximately £118,000, to which Dublin's contribution is very large. The city theatres and their seating accommodation are as follows: Theatre Royal (2,011), Olympia (1,696), Gaiety Theatre (1,393), Tivoli Theatre (1,252), Queen's Theatre (1,233), Abbey Theatre (562). The city cinemas and their seating accommodation are as follows: La Scala (1,900), Metropole (1,000), Phœnix (950), Mary Street (920), De Luxe (910), Bohemian (820), Grand Central (800), Dorset Street (774), Corinthian (700), Grafton (670), Palace (642), Fountain (650), Carlton (600), Rotunda (736), Phibsborough (546), Manor (542), Inchicore (450), Electric (450), Lyceum (420), Masterpiece (400), Pillar (390), Camden (350), Sackville (296). There are twenty-three in all.

The cinemas outside the municipal area are as follows: Stella (Rathmines) 1,355, Princess (Rathmines) 600, Sandford (Ranelagh) 568, Blackrock (700), Pavilion (Dun Laoghaire) 748, George's Street (Dun Laoghaire) 402. There are six in all. There is great need for one or more large concert halls in the city of Dublin, of up-to-date construction and good acoustic properties, as at present there is no such existing provision. The Round Room of the Mansion House is in an advanced state of decay, and several minor halls in the city are quite too small for more than a few hundred people.

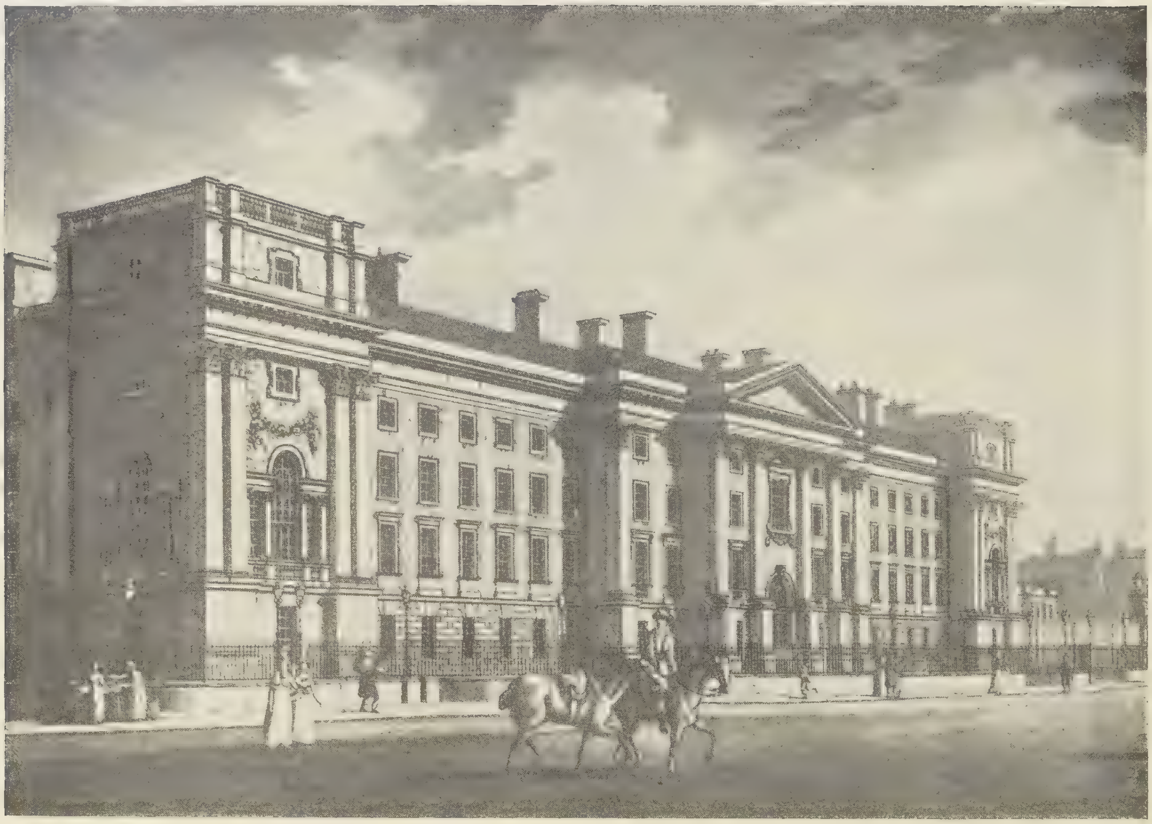
PUBLIC LIBRARIES.

The only Public Library under Government control is the National Library, of which students engaged in study or research work largely availed themselves. Three other fine libraries in the city are at Trinity College, the College of Science, and the King's Inns. The libraries under the control of the Municipality are Lower Kevin Street, Capel Street, Pearse Street, Thomas Street, Charleville Mall. During the year 1922 the total number of volumes used in these libraries was, approximately, 164,000, excluding magazines, newspapers, etc. Outside the city area are Carnegie libraries at Rathmines, Blackrock, Dun Laoghaire and Ballybrack. In 1922 the number of volumes used in Rathmines was, approximately, 146,000. There is no public library in Pembroke, although a Carnegie grant is available. Examples of children's libraries attached to public libraries exist at Rathmines and Pearse Street. There are no public libraries at Fairview, Drumcondra, Phibsborough, or Dolphin's Barn, although these are well-populated districts.

TREE PLANTING.

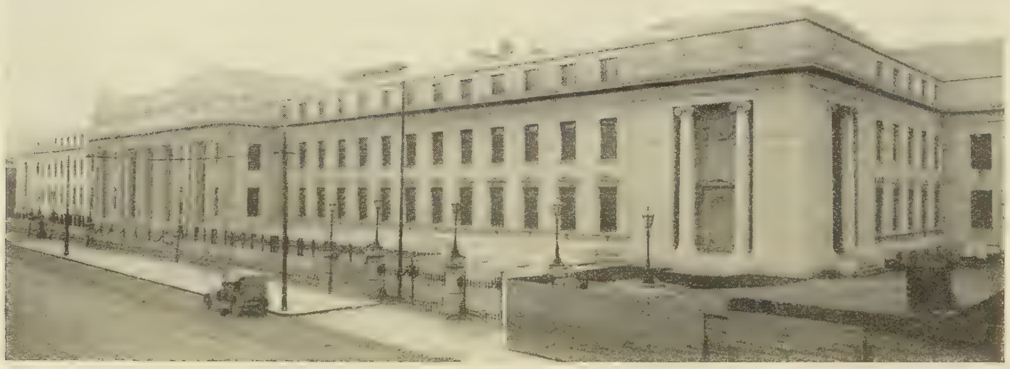
Within the municipal area tree planting has been provided in recent years upon a large scale, and the number now growing reaches nearly 3,000 trees. In this area trees cannot be expected to flourish universally, as the subsoil is limited. A greater proportion of trees in squares and open spaces exceeds in value the effect of small numbers on lengthy roads. The aesthetic value of trees as a foil to buildings in city streets cannot be over-estimated. Most continental cities are a demonstration of this. It might be desirable to plant a more fast-growing tree in Dublin, where space was not restricted; nevertheless, the matter generally has received very careful attention within the municipal area.

The Urban Districts of Rathmines and Pembroke, the former especially, are suburbs where tree planting has been executed on a very charming and efficient scale, and merits the appreciation of the residents. On a smaller scale in the Pembroke Urban District some very successful results are obtained. In Dun Laoghaire Urban District the opportunities for effective tree planting are not sufficiently appreciated, and in the Blackrock Urban District they are entirely neglected. There is little apparent need for this form of decoration in the Urban Districts of Howth, Killiney, and Dalkey, but a limited amount concentrated in places at centres near churches, harbours, or railway stations would prove attractive. Within the area under review the outstanding examples of successful tree planting are Drumcondra Road, St. Lawrence Road, Harrington Street, and Foster Place, and in the suburbs Cowper Road, Church Avenue, Leeson Park, Pembroke Road and Eglinton Road. In general, it may be contended that the suburbs of Dublin have in some cases been rendered beautiful by tree planting. The banks of the Grand Canal from Mount Street westwards are effective examples of the value of tree planting alongside water, and are worthy of careful preservation.



[From Malton's View.

West Front Trinity College.



By courtesy of] [Cambridge University Press.

East Front University College.

III.—EDUCATION.

A review of the educational facilities provided within the city area is desirable, and forms part of the programme of the survey.

The adequate provision of school accommodation of the most modern kind is a vital factor in the training of the youth of the Nation. This has been recognised elsewhere, and no doubt the same recognition will obtain here as soon as it is possible to take up educational reform in a thorough manner.

Following the change of Government in this country, the outlook for education has changed considerably, and a Ministry of Education now controls all Irish education, with the exception of the Universities.

The National Museum of Science and Art.

As a vast educational agency of an all-embracing nature there is in Dublin the National Museum of Science and Art. Strange though it may seem, it is sparsely used by the citizens of Dublin, if we may judge from the attendances on their part, but it is much appreciated by visitors, especially foreigners, who wish to know something of Irish culture in the past. The visitors to the Museum number, approximately, 320,000 per annum. The question of increasing the educative influence of museums has been, according to the acting director in Dublin, much discussed for many years. A system imported from the United States has been in operation in London for a number of years. Under it persons are appointed to lecture in the Museum apartments at fixed hours each day. It is only possible to make a success of this system in richly-endowed museums. A modified form of this system was, however, inaugurated in Dublin many years ago, but was eventually discontinued. Subsequently, lantern lectures on various branches of art, archæology, or natural history were inaugurated on fixed evenings, and were apparently successful.

General archæology and art are represented by a very good Egyptian collection, and a highly educative Greek collection augmented in recent years by the energy of the late Professor of Greek in University College. Irish silver and glass are extensively represented.

The Ethnographical section is a very important one and has been formed by contributions from Irish travellers; the most recent addition being a collection formed by the late Major Mahaffy, sometime resident in the South Pacific Islands. The Botanical section is of high educational value, as also are the Mineralogical, Geological, Irish Fauna and Celtic antiquities. Guides to several of these sections have been issued by individual keepers. A beautiful and invaluable collection of treasures in gold, silver and bronze formed by the Royal Irish Academy, including the famous Ardagh Chalice, the Cross of Cong, the Tara Brooch, the Shrines of the Bell of St. Patrick, and others, and several early croziers, etc., can be studied here. The collection of gold ornaments is, perhaps, the finest in Europe.

THE NATIONAL LIBRARY.

The National Library, also a great educational agency, was established in the year 1731, under the Royal Dublin Society, but it did not become free to the general public until 1836. The library does not recover books under the Copyright Act, but is being well supplied with books, pamphlets, newspapers, etc., relating to all Irish matters, as well as books on literature, history, etc. The number of volumes is estimated at 250,000. The number of readers in 1919–1920 was 159,322. The library was closed to the public until 1924.

UNIVERSITIES.

Dublin is the seat of two universities—Dublin University (Trinity College) and the National University (University College), with its additional constituent colleges of Cork, Galway and the affiliated college of Maynooth.

Dublin University, founded in 1591, has been in the past distinguished by a splendid list of classical and mathematical scholars, and it still preserves a world-wide fame as a seat of learning. Many of the most famous Irishmen were educated there. The College stands on the site of the Monastery of All Hallows, which was granted to the University in the reign of Queen Elizabeth. It stands upon 35 acres of ground, in the heart of the city, and possesses a magnificent collection of buildings, some designed by famous architects. The policy of the college is progressive, and it has a unique social prestige. Within the college precincts are extensive recreation grounds, and without are other special facilities for popular pastimes. The five endowed faculties with approximate number of students are: Divinity, 30; Law, 50; Medicine, 530; Engineering, 68; Arts, 1,150, including some non-matriculated students. The present need of extensions by way of new buildings is in the library and school of chemistry. The college at present is training nearly 2,000 students.

University College (Dublin) came into existence after prolonged public agitation under the Irish Universities Act, 1908. It superseded the Royal University and Catholic University. It has not yet been sufficiently long established to provide a roll of great scholars. Its home is at Earlsfort Terrace, where it occupies the site of the buildings of the old Royal University, with some additional ground obtained through the munificence of Lord Iveagh, who has a city residence close by. A grant of £160,000 was provided by the State for the erection of suitable buildings, and these were begun in 1913, but cannot be completed for the want of sufficient funds. There are no recreation grounds within the precincts, but some have been obtained at Terenure, which have an area of about 18 acres. An important part is the Celtic School with the Zimmer Celtic Library, and is a source of inspiration to the students. Attached to the faculty of Engineering is a Chair of Architecture. The eight endowed faculties with approximate number of students at present are:—Science, 120; Commerce, 130; Medicine (including Dentistry) 425; Engineering, 78; Law, 40; and Arts, Philosophy and Celtic Studies, 450. In addition to the buildings at Earlsfort Terrace, the University holds 85 and 86 Stephen's Green and the Medical School, Cecilia Street.

The approximate total number of students at Dublin University, according to the returns furnished in 1924, was 1,828, and at University College, 1,243, making a total of 3,071.

By courtesy of] [Cambridge University Press.

General View of Science and Art Buildings.

Photo by] [" The Irish Times."

ROYAL DUBLIN SOCIETY, BALLSBRIDGE.

General View of Jumping Enclosure.

THE ROYAL HIBERNIAN ACADEMY.

The Royal Hibernian Academy was incorporated by charter in 1823. The Academy house in Abbey Street was built, at his own expense, by Francis Johnston, Architect, and second President, and completed in 1826. (A complete account of these institutions will be found in W. G. Strickland's *Dictionary of Irish Artists*, Vol. II.)

THE NATIONAL GALLERY.

The National Gallery of Ireland was erected in Leinster Lawn, and opened in January, 1864. The buildings were increased by the addition of a number of rooms in 1903. The collection consists of oil pictures, drawings, and engravings of the Continental, British, and Irish schools, together with an Irish portrait collection.

The Gallery is open daily, free to the public.

THE ROYAL DUBLIN SOCIETY.

This section would be incomplete without some reference to the educational work of the Royal Dublin Society. Founded in 1731 as the Dublin Society for "improving Husbandry, Manufacture, and the useful Arts and Sciences" it has rendered distinguished services to art, to agriculture, and industrial progress.

At an early stage in the Society's history the funds available were devoted to the encouragement of art, science, and industry, and premiums were awarded for a variety of subjects. These included agriculture and tree planting, manufactures, fisheries, while in 1758 the Art Schools of the Dublin Society were founded. The Society's Art Exhibitions are also worthy of note.

Among the institutions arising from the activities of the Royal Dublin Society are the National Museum of Science and Art, the National Library, the Botanic Gardens, and the Metropolitan School of Art.

The Royal Dublin Society's Exhibitions, Agricultural and Industrial, are held in their premises at Ballsbridge, and are of world-wide repute.

ROYAL IRISH ACADEMY.

The Royal Irish Academy was founded in 1789 for promoting the study of Science, Polite Literature, and Antiquities. Meetings for the reading and discussion of papers are held regularly from November to June in the Academy House, 19 Dawson Street.

Visitors, introduced by members, are also admitted to the library. The Museum of Antiquities formed by the Irish Academy is now housed in the National Museum.

THE ROYAL SOCIETY OF ANTIQUARIES, 63 MERRION SQUARE.

This Society was originally founded in 1847 at Kilkenny. Papers on historical and archæological subjects are read, and objects of antiquarian interest are exhibited.

A Journal of the Society's Proceedings is published twice a year.

Extra volumes on special subjects are also issued.

ROYAL COLLEGE OF SURGEONS.

The College of Surgeons dates from the year 1780, when a number of surgeons constituted themselves into the "Dublin Society of Surgeons," but it was not until 1784 that the first Charter was granted incorporating the surgeons of Dublin into a Royal College.

From this time examinations were held by the college of all regularly educated surgeons, and letters testimonial, qualifying the holders to practise surgery and to be eligible for membership, were granted to all those competent.

In 1809 the present buildings in St. Stephen's Green were erected, and finally completed in 1827. The college possesses a fine library. At present the college provides teaching accommodation for students in surgery, and the approximate number in attendance is 470.

THE ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

In 1654 John Stearne, M. & J.U.D., a Senior Fellow of Trinity College, Dublin, was granted by the Board of Trinity College the use of Trinity Hall on Hoggen Green as a home for a Fraternity of Physicians, of which he was constituted the first President. This Fraternity was incorporated by Royal Charter of Charles II., in 1667, as the College of Physicians of Ireland, and became the first School of Medicine in modern Ireland. A new charter was granted by William and Mary in 1692, by which the name of the college was changed to the King and Queen's College of Physicians in Ireland. The newly constituted college formed what was in reality the Medical Faculty of Trinity College, and the Fellows of the College of Physicians conducted the examination of the candidates for the degrees in Medicine, which were granted by the University of Dublin. In 1863 the present home of the College of Physicians in Kildare Street was built at the expense of the Fellows, under the presidency of Sir Dominick Corrigan. In 1890 Queen Victoria granted to the college a supplemental charter, by which its title was changed from the King and Queen's College of Physicians in Ireland to that of the Royal College of Physicians of Ireland.

ROYAL COLLEGE OF SCIENCE.

This college was formerly housed in St. Stephen's Green, E., but new buildings on a large scale were built in Upper Merrion Street following the passing of the Agriculture and Technical Instruction Act of 1899. In consequence of the change of Government in 1921, part of these premises were taken over for offices by the new Government, and are still used for this purpose. The accommodation for the teaching of Science is very extensive, and the equipment quite up to date. Before the change in 1922 of these buildings, there were approximately 421 students in attendance in 1920–21.

The college has been transferred from the Department of Agriculture, and is under the administration of the Department of Education.

Number of students at present time (1924–1925) in each faculty as follows: Agriculture, 22; Applied Chemistry, 22; Engineering, 55; Natural Science, 2. Total—101.

ROYAL BOTANIC GARDENS.

These Gardens have principally an educational value, but form also a pleasure resort in the neighbourhood of Glasnevin. They cover 51 acres beautifully laid out, and through which the river Tolka flows. They are open in summer and winter, free of charge. The first object of such a garden is to promote the study of Botany, by providing the student with plants arranged systematically, to illustrate the order and species, so that they may be able to examine the living plants, instead of having to rely upon book illustrations, or dried specimens in museums. Plants which are important as producing food, medicine, and other useful substances are also shown, and plants native to other climates are on view, showing what skill and cultivation can do. The gardens include extensive hot houses, an arboretum, palm house, rock garden, wild garden, walled garden, and rose gardens. An inspection of the teaching collections in the Botanical department of the National Museum will help to show the principles on which the classification of plants is based, and will give additional interest to a visit to the gardens. Bordered with old yew trees is Addison's Walk, where it is said the poet Addison composed some of his poems. The number of visitors annually was in 1923, 372,755, and in 1924, 354,985.

ROYAL ZOOLOGICAL GARDENS.

These Gardens are situated within the confines of Phœnix Park, and form both an educational and pleasure resort. They contain a fine collection of wild animals, and birds and fish. The gardens are extensive and well equipped, and include a fine lion house, presented by the late Field Marshal Lord Roberts. An ample shelter and refreshment kiosk is erected. They are the property of the Royal Zoological Society of Ireland, and a charge is made for admission. The number of visitors annually is about 123,000.

METROPOLITAN SCHOOL OF ART.

There are few Schools of Art which can boast a greater antiquity than the Metropolitan School of Art, Dublin.

The Dublin Society, in 1746, decided to establish a school for drawing and painting, and in 1748 the school was in George's Lane, under Mr. West, moving in 1768 to the Dublin Society's House, Shaw's Court, off Dame Street, and later to Hawkins' Street. Collections of casts and drawings appear to have been presented to the school from time to time. In 1815 the Royal Dublin Society purchased Leinster House. The present building of the School of Art appears to have originally been intended for a museum, and was built about 1843—the first public distribution of prizes to pupils of the school took place in 1842.

Up to 1849 the Society had four schools or departments for figure, landscape and ornament, architecture and modelling. From this period the school ceased to exist exclusively under the control of the Royal Dublin Society, and after 1860 the school was in connection with the Department of Science and Art. In 1879 it was taken over by the Government along with institutions such as the Botanic Gardens and National Library, passing in 1900 under the control of the new Department of Agriculture and Technical Instruction.

The National Museum of Science and Art, the National Library, the National Gallery, and the Metropolitan School of Art are now under the Ministry of Education.

MUNICIPAL GALLERY OF MODERN ART, CLONMEL HOUSE, 17 HARCOURT STREET.

This Gallery, open free to the public, is under the management of the Public Libraries Committee of the Dublin Corporation, assisted by an art advisory committee.

The gallery is a fine collection of modern works, due to the generosity and initiative of the late Sir Hugh Lane.

ALBERT AGRICULTURAL COLLEGE.

This College, formerly known as the Model Farm, is situated between Glasnevin and Whitehall, and possesses extensive buildings and grounds. It is under the auspices of the Department of Agriculture. It provides varied courses for agricultural students, and has upon its roll, at present, 29 students, twelve of whom are students taking the ordinary course, thirteen farm apprentices, and four taking the horticultural course.

ROYAL VETERINARY COLLEGE.

This College is situated at Ballsbridge, and is under the auspices of the Department of Agriculture. It was founded in 1895, and in 1920–21 there were 184 students; 1922–23, 144; 1923–24, 123.

Research work is undertaken to a considerable extent. The morbid specimens sent to the college include horses, sheep, pigs, dogs, cats, poultry, etc.

TRAINING COLLEGES.

Within the area included in the civic survey are several training colleges as follows:—St. Patrick's Training College, Drumcondra, having at present 164 students; Church of Ireland Training College, Kildare Street, 70; Our Lady of Mercy Training College, Blackrock, 196. All these are extensive and well-equipped buildings, surrounded by spacious grounds, with the exception of the Kildare Street College.

The colleges for the teaching of the Irish Language recognised by the Ministry of Education are as follows:—Leinster College of Irish, 39 Parnell Square, 564 students; Dublin College of Modern Irish, 27A Lower Abbey Street, 202; An Ard Sgoil, Whitefriar Street—having a total of about 766 students.

The Order of the Christian Brothers has a training college at Marino.

TECHNICAL SCHOOLS.

The Technical Schools within the city of Dublin and its environs are under the auspices of the Department of Lands and Agriculture. Under the management of the Dublin Corporation are the Technical Schools—Parnell Square, Bolton Street and Kevin Street—having, respectively, attendances of 1,529, 1,333, 625; and at the School of Music, Chatham Row, 280. Total, 3,767 students annually. The executive offices are situate in the school at 18 Rutland (Parnell) Square. These schools are extensive, and well equipped, but there is much need for additional accommodation.

Under the management of the Urban District Councils are schools (1923–24) at Rathmines, 1,675 students; Pembroke, 594; Blackrock, 292; Dun Laoghaire, 508. There are no technical schools at Dalkey, Killiney, or Howth.

Technical classes are also conducted in the following:—

Blackrock Dominican Convent, Higher School of Domestic Economy;
Blackrock Dominican Convent, Sion Hill (Teacher's Course);
St. Mary's Dominican College, Donnybrook (Teacher's Course);
Alexandra College (Housecraft and Secretarial Course);
Christian Brothers' Schools, North Richmond Street (Teacher's Course);
Christian Brothers' Training College, Marino (Teacher's Course);
Church of Ireland Training College;
College of Modern Irish, Lower Abbey Street;
Dental Hospital School;
Leinster College of Irish;
Loreto College, St. Stephen's Green (Teacher's Course);
Marlborough Street Training College;
St. Patrick's Training College, Drumcondra;
School of Physic, Trinity College;
Schools of Surgery, Royal College of Surgeons.

SECONDARY SCHOOLS.

Under the auspices of the Commissioners of Intermediate Education are sixty-one schools within the area of the survey. Some of these are within the city area, and some are large boarding-schools with extensive grounds attached. The approximate total number of students in these schools is at present 6,950. In many cases there is need for extension of premises, and the recreation accommodation in the city schools is very limited. A revision of the Intermediate education system is at present under the consideration of the Government.

CHRISTIAN BROTHERS' SCHOOLS.

The Order of the Christian Brothers has schools under their management or ownership within the city area and the environs. These schools are very largely availed of, and some are congested. Schools are situate at the following:—

	STUDENTS
North Brunswick Street	610
North Richmond Street, St. Mary's Place, Strand Street, and Seville Place ..	1,694
Synge Street and Francis Street	1,428
Westland Row	742
James's Street and Goldenbridge	857
Glasnevin Orphanage (residential) ..	143
The O'Brien Institute (residential) ..	64
Marino	502
Cabra Institution (residential)	144
Carriglea (residential)	219
Artane (residential)	578
Dun Laoghaire	537

There is urgent need for extension at the North Brunswick Street, Dun Laoghaire, James's Street, Synge Street and Westland Row schools. Except in the following schools, there is little or no accommodation for outdoor recreation—Glasnevin Orphanage, the O'Brien Institute, Cabra Institution, Carriglea and Artane. The total number of students in these schools at present is 7,498.

NATIONAL SCHOOLS.

School	Average Attendance	Accommodation
St Paul's (B.)	176	250
St. Joseph's (G.)	106	228
St. Joseph's (Inft.)	207	231
Stanhope Street (Con.)	998	1,137
Grangegorman	46	142
St. Paul's (2) (B.)	99	166
St. Paul's (G.)	69	189
Victoria Kindergarten	43	117
St. Patrick's (G.)	132	180
St. Patrick's (Inft.)	243	313
St. Peter's (B.)	334	282
St. Peter's (G.)	194	186
St. Peter's (Inft.)	287	228
St. Gabriel's (B.)	290	285
St. Gabriel's (B. Inft.)	173	194
St. Gabriel's (G. Inft.)	169	140
St. Gabriel's (G.)	166	176
St. Michan's	21	177
Clontarf (B.)	74	73
Clontarf (G.)	149	150
Green Lanes	49	188
Fairview (Inft.)	231	205
Howth Road (B.)	82	113
Howth Road (G.)	54	100
Howth Road (Inft.)	45	104
St. Mary's (G.)	211	265
St. Patrick's (1) (B.)	310	413
St. Patrick's (2) (B.)	72	130
St. Patrick's (3) (B.)	41	55
Clonliffe	38	172
Drumcondra	112	138
St. Joseph's Blind Asylum	23	73
Glasnevin Model	142	156
Glasnevin	59	179
Lindsay Road (B.)	45	100
Lindsay Road (G.)	87	150
St. Brigid's Convent (Glasnevin)	256	283
St. Michan's (1) (B.)	218	196
St. Michan's (Inft.) (B.)	109	168
St. Michan's (Inft.) (G.)	48	84
George's Hill (Con.)	631	935
St. Francis Xavier's (G.)	197	159
St. Francis Xavier's (Inft.)	176	132
St. Joseph's Senior (G.)	254	245
St. Joseph's (Inft.) (G.)	194	179
St. Joseph's Senior (B.)	205	284
St. Joseph's (Inft.) (B.)	171	289
Phibsboro'	74	86
Josephian (G.)	241	268
North Strand	35	202
St. Columba's (B.)	88	78
St. Columba's (G.)	95	97
St. Columba's (Inft.)	92	145
St. Vincent's Con. Senior	1,068	1,300
St. Vincent's Con. (B.) Junior	987	856
St. Thomas's	77	175
Pro-Cathedral (B.	471	521
Pro-Cathedral (G.)	355	375
Pro-Cathedral (Inft. B.)	413	368
Pro-Cathedral (Inft. G.)	383	380
St. Saviour's (B.)	294	290
St. Saviour's (G.)	232	277
St. Brigid's Convent (Little Strand Street).	444	494
Central Model (B.)	566	1,368
Central Model (G.)	563	818
Central Model (Inft.)	217	300
St. Laurence O'Toole's (1) (G.)	159	162
St. Laurence O'Toole's (Inft. G.)	181	165
St. Laurence O'Toole's (Inft. B.)	282	284
St. Laurence O'Toole's (2) (G.)	125	116
St. Barnabas's	91	230
East Wall (B.)	185	128
East Wall Convent	480	456
King's Inn Street Convent	1,297	1,400
Gardiner Street Convent	1,378	1,531
St. Mary's (B.)	42	134
St. Mary's (Inft.)	31	175
St. Mary's (G.)	31	127
St. George's	139	299

NATIONAL SCHOOLS—*Continued.*

School	Average Attendance	Accommodation
St. George's (Inft.)	58	146
St. Kevin's (G.)	268	265
St. Kevin's (Infts.)	345	343
Pembroke Street	30	83
Inchicore Model (B.)	163	173
Inchicore Model (G.)	102	87
Inchicore Model (Infts.)	111	111
Goldenbridge Convent	599	830
Chapelizod (2)	30	110
Inchicore South (B.)	261	330
Inchicore Central	56	102
Chapelizod (B.)	89	106
Chapelizod (G.)	99	120
Loreto Convent (Leeson Lane)	658	590
Mrs. Wray's (Inft.)	93	282
St. Peter's (G.)	47	140
The Damer	91	173
York Street	39	75
St. Catherine's (B.)	171	235
St. Catherine's (G.)	111	122
St. Catherine's (Infts.)	133	138
St. Audoen's (B.)	109	161
St. Audoen's (G.)	104	100
St. Audoen's (Infts.)	77	66
Weaver's Square Convent	841	958
Dolphin's Barn	155	157
Warrenmount Convent	789	673
Donore	69	123
St. Kevin's Senior (B.)	250	177
St. Kevin's Junior (B.)	273	177
St. Catherine's West (B.)	110	167
St. Catherine's West (G.)	239	282
St. Peter's (B.)	450	450
St. Peter's (G.)	415	420
St. Peter's (Infts. G.)	235	230
St. Peter's (Infts. B.)	273	225
St. Brigid's Convent (Clarendon St.)	467	518
SS. Michael and John's (B.)	192	189
SS. Michael and John's (G.)	134	242
SS. Michael and John's (Infts.)	222	243
St. Andrew's	44	149
Baggot Street Convent	1,166	1,503
St. Andrew's (B.)	446	480
St. Andrew's (Infts.)	279	321
Orthopædic Hospital	44	43
Townsend Street Convent	677	730
City Quay (B.)	302	280
Kildare Place (B.)	55	263
Kildare Place (G.)	138	215
Kildare Place (Infts.)	52	135
St. Mark's (B.)	50	106
St. Mark's (G.)	37	116
St. Mark's (Infts.)	41	110
St. James's Convent	997	842
West Dublin Model (B.)	324	352
West Dublin Model (G.)	202	236
West Dublin Model (Infts.)	224	244
John Street, West (G.)	103	130
John Street, West (Infts.)	103	130
John Street, (B.)	143	173
St. James's	48	134
St. James's Parish (B.)	46	90
St. James's Parish (G.)	46	90
St. Andrew's	100	172
St. Nicholas Without (G.)	210	240
St. Nicholas Without (B. Infts.)	145	131
St. Bride's	41	67
St. Bride's (Infts.)	37	90
Kingsland Park	96	108
St. Peter's (B.)	99	291
St. Nicholas Without and St. Luke's		
Boys	41	157
Girls	20	70
Infts.	24	192
St. John's United Senior	39	107
St. John's United Junior	21	118
Rialto (B.)	134	283

BLACKROCK URBAN DISTRICT.

School	Average Attendance	Accommodation
St. John Baptist (B.)	139	214
Booterstown Convent	109	229
Booterstown (B.)	58	129
Booterstown	60	130
Blackrock Convent	409	864

DALKEY URBAN DISTRICT.

School	Average Attendance	Accommodation
Dalkey Convent	219	250
Dalkey (2)	17	120
Harold (B.)	115	110

KINGSTOWN URBAN DISTRICT.

School	Average Attendance	Accommodation
Kingstown Convent	677	811
Kingstown	83	209
St. Joseph's (B.) (Glasthule)	153	200
Harold Convent	354	389
Monkstown	57	146
St. Paul's	67	188
Monkstown (Infts.)	24	171
Sallynoggin	57	97

NATIONAL SCHOOLS—*Continued.*

HOWTH URBAN DISTRICT.

PEMBROKE URBAN DISTRICT.

School	Average Attendance	Accommodation
Ringsend (B.)	194	191
Ringsend (G.)	184	208
Ringsend (Inft.)	220	230
Haddington Road (B.)	208	188
Irishtown (B.)	64	194
St. Matthew's (G.)	122	185
Donnybrook (B.)	161	206
St. Stephen's	90	198
St. Stephen's (Inft.)	46	124
Canon O'Hanlon Memorial (B.)	168	163
Sandymount Convent	349	453
St. Mary's, Donnybrook	302	295
Donnybrook	90	170
Canon O'Hanlon Memorial (Inft.)	115	109
St. Brigid's Convent, Haddington Road	456	336
St. Mary's Blind Asylum, Merrion	25	252

RATHMINES AND RATHGAR URBAN DISTRICT.

School	Average Attendance	Accommodation
Harold's Cross (B.)	111	162
Our Lady's Mount Convent	736	947
Milltown (B.)	45	44
Christ Church, Leeson Park (B)	87	105
Christ Church, Leeson Park (G.)	85	144
Christ Church, Leeson Park (Inft.)	63	94
St. Anne's Convent	324	530
St. Mary's (B.)	391	404
St. Mary's (G.)	285	255
St. Mary's (Inft.)	297	205
Rathmines Township	88	212
Rathgar (B.)	53	133
Rathgar (G.)	68	125
Mount Jerome	55	223
Zion	69	158
Sandford	89	143
Tranquilla (B.)	130	95
Tranquilla (G.)	191	176

DUBLIN DISTRICT INTERMEDIATE.

School	Average Attendance	Accommodation
Alexandra College	—	248
Alexandra School	—	235
Belvedere College	284	—
Bertrand Intermediate School	—	57
Catholic University School	108	—
Convent of the Sacred Heart	—	35
Diocesan Schools	62	—
Diocesan School	—	88
Dominican College	—	336
Holy Faith Convents	—	61 69 82 48 72 70
Kenmare College	—	47
King's Hospital School	92	—
Loreto Convent	—	122
Loreto College	—	252
Mountjoy School	214	—
O'Connell Schools	395	—
Rutland High School	—	99
St. Andrew's College	231	—
St. Vincent's Orphanage	68	—
St. Brigid's High School	—	39
Wesley College	164	134
St. Margaret's Hall	—	51
St. Mary's Dominican College	—	67
St. Patrick's Cathedral School	34	—
The High School	185	—
Masonic Female Orphan School	—	68
Avoca School	21	2
Blackrock College	290	—
Dominican Convent	—	131
St. Joseph's Convent	3	43
Masonic Boys' School	77	—
Loreto Abbey	—	101
Mercer's Endowed School	—	49
Morgan's Endowed School	44	—
St. Vincent's College	220	—
Convent of the Sacred Heart	—	65
Christian Brothers' Schools	83	—
Dominican Convent	—	56
Grammar School	29	4
Ladies' College	—	30
Presentation Brothers' College	46	—
Victoria School	—	30
College of Mary Immaculate	35	—
Loreto Convent	—	113
St. Columba's College	87	—
St. Enda's College	17	—
Norfolk College	—	37
Convent of St. Louis	—	90
St. Dominic's High School	—	30
Terenure College	69	—

LIST OF EVENING SCHOOLS IN DUBLIN WHICH HAVE BEEN NOTIFIED AS OPERATIVE IN THE SESSION 1923–24.

Central Model, Marlborough Street; Inchicore Model, Inchicore; College Green (B.) (Post Office), College Green; SS. Michael and John's, Lower Exchange Street; College Green (G.) (Post Office), College Green; St. Anthony's, 89 Upper Dorset Street; Merrion House, 71 Lower Mount Street; Lower Abbey Street, 27A Lower Abbey Street; W. & R. Jacob's (B.), Bishop Street; Synnot Place, 7 Synnot Place; W. & R. Jacob's (G.), Bishop Street; Lower Leeson Street Convent, Lower Leeson Street; Lower Drumcondra Road, 50 Lower Drumcondra Road; Grattan Court, 12 Grattan Court; Education Office, Marlborough Street; Glasnevin, Glasnevin N.S.; Mountjoy Square, 24 Mountjoy Square; Ard Chraobh, 39 Parnell Square; Revenue Commission, Dublin Castle; Savings Bank, Dublin Castle; St. Peter's, Phibsboro.'

PREPARATORY SCHOOLS.

LOCATION.	NUMBER OF PUPILS.	ACCOMMODATION FOR RECREATION.
74 and 75 Stephen's Green	Between 80 and 90 ..	8 acres at Sandford Road, Ranelagh.
47 Rathgar Road, Preparatory for St. Andrew's College	90	——
Dollymount	28 Boarders; 2 Day Pupils	5 acres, avenue; 5 acres fields.
Monkstown Park, Dun Laoghaire ..	46 Boarders	14 acres, of which 5 are playing fields.

PRIVATE SCHOOLS.

NAME.	LOCATION.	NUMBER OF PUPILS.	NEED FOR EXTENSION.
Scoil Brighde ..	55 Pembroke Road	105	No.

Accommodation for recreation—A large playground sufficient for recreation at half-hour breaks, but no space for organised games. Permission to play in Herbert Park has been obtained, but this is only temporary, and permission may be withdrawn at any moment.

NAME.	LOCATION.	NUMBER OF PUPILS.	NEED FOR EXTENSION.
Nightingale Hall ..	47, 49, 51 Wellington Place, Clyde Road	110	Not at present

Accommodation for recreation.—The three gardens have been formed into one, giving space for two tennis courts, one of which is used for net ball in the winter. Also there is a playground, and strips of beds for gardening.

PRIVATE SCHOOLS—*Continued.*

NAME.	LOCATION.	NUMBER OF PUPILS.	NEED FOR EXTENSION.
Bellevue School ..	Sutton	32	No.

Accommodation for recreation.—A large garden at the back of the house is given over as a playground for the pupils.

COMMERCIAL SCHOOLS AND COLLEGES.

NAME.	LOCATION.	NUMBER OF PUPILS.	NEED FOR EXTENSION.
Rosse College	Stephen's Green	450	—
McGuire's Civil Service College	51 Upper O'Connell Street ..	250	Not at present.

Accommodation for recreation.—None.

SCHOOLS OF MUSIC, DRAMA, Etc.

NAME.	LOCATION.	NUMBER OF PUPILS.	NEED FOR EXTENSION.
Royal Academy of Music	Westland Row	—	—
Dublin School of Elocution	80 Upper Leeson Street ..	—	—
Read Pianoforte School ..	12 Harcourt Street	230	—

In both the primary and secondary schools in this area, there is an excess of pupils over the available accommodation, and prospective pupils are refused in many schools. Within the municipal area alone in 155 schools (boys, girls, and infants), 78 have more pupils than they can properly accommodate. In the Urban districts 29 out of 55 schools are in a similar condition. The Christian Brothers' schools, generally speaking, have a much greater demand than they can cope with. The University Colleges are in urgent need of extended facilities for some of their faculties. Another aspect that has been divulged is the unwillingness of private property owners to let or sell sites for school purposes. On the face of it this is regrettable, but closer investigation will probably reveal causes which are capable of adjustment. If attendances in some congested districts were strictly enforced the position would be hopeless.

RECREATION AND EDUCATION MAP.

Explanatory Note.

The scale of the original Survey Map is 6 inches to the mile.

This Map is one showing the whole area covered by the Survey, and indicates the existing facilities for recreation and education. The red discs represent schools and colleges, while yellow areas edged with green show educational agencies other than schools, such as the Botanical Gardens.

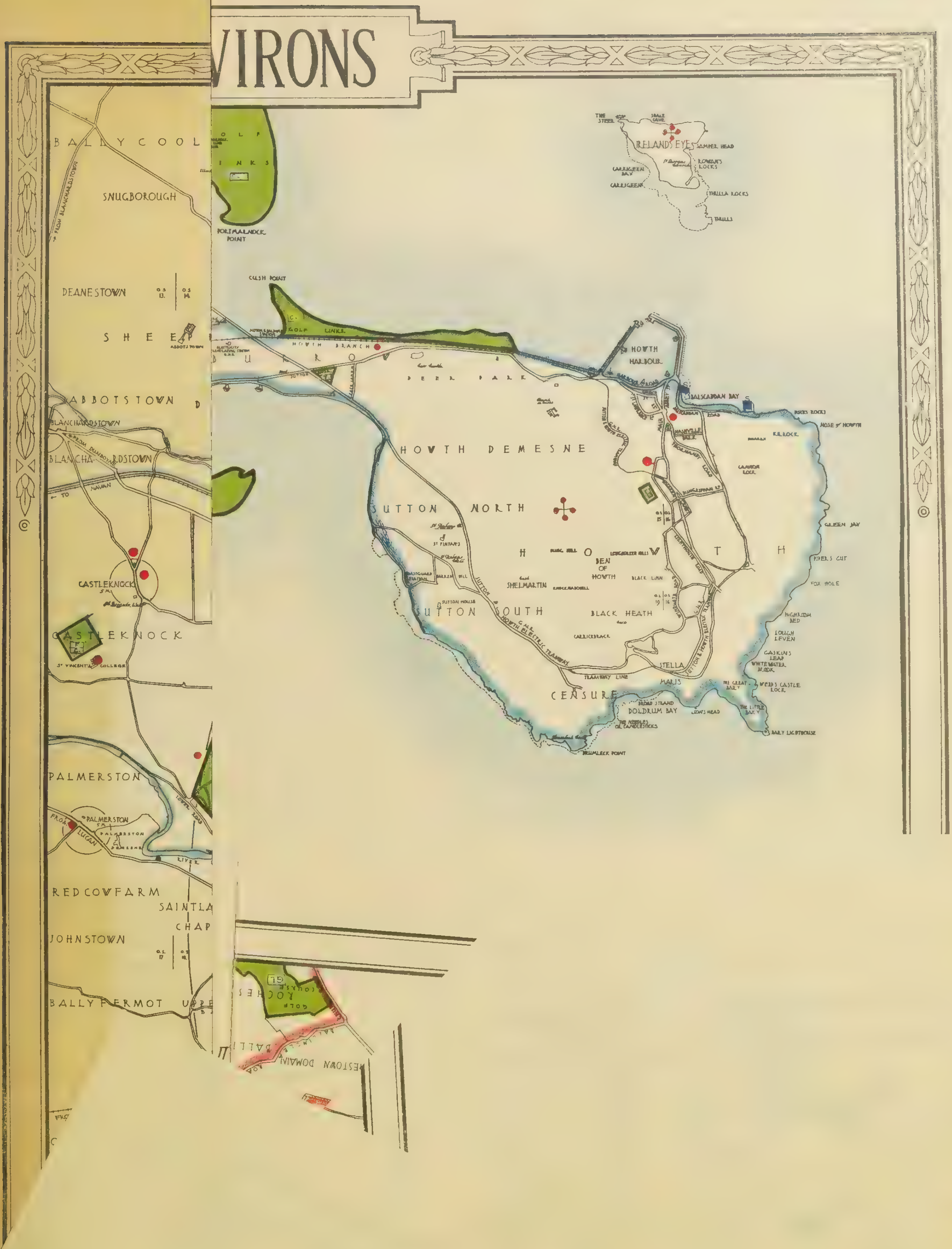
It would appear from the Map that there are a sufficient number of schools, but the Survey Report indicates clearly that this is not the case, and that in some districts there is an excess of pupils over the accommodation available, so that if attendances were strictly enforced the position in the central area would be hopeless.

The parks, open spaces, and facilities for all outdoor sports, such as football, cricket, tennis, golf and racing are shown in green. Swimming baths, play-centres, and some sites of natural beauty and interest are shown by symbols, which will be found on the index of this Map.

It will be seen that the central area of the city is inadequately supplied with open spaces, especially the south-west area, and the maximum benefit is not derived from those which do exist. The city squares, except St. Stephen's Green, are closed to all but a few, and children's playgrounds are negligible, causing the streets to become the chief centre for recreation for children.

Facilities for indoor recreation are also shown, and the sites of Public Libraries will be found on this Map.

Theatres and Cinemas are indicated by yellow discs, and of these there are a sufficient number. There is no Concert Hall in the city area.


VIRONS
IRELANDS EYE
THE STEEP
LAMPER HEAD
CARRIGEEN BAY
THULLA ROCKS
BRILLS
PORTMARNOCK POINT
CUSH POINT
GOLF LINKS
HOWTH BRANCH
HOWTH HARBOUR
BALSCADDAN BAY
DEER PARK
HOWTH DEMESNE
NOSE OF HOWTH
KILROCK
CANNON ROCK
SUTTON NORTH
H O W T H
BEN OF HOWTH
SHELMARTIN
BLACK HEATH
SUTTON SOUTH
CARRICKBRACK
STELLA
MARTS
CENSURE
DOLDRUM BAY
BAILY LIGHTHOUSE
DRUMLECK POINT
PIPER'S GUT
FOX HOLE
HIGHROCK HEAD
LOUGH LEVEN
GASKINS LEAP
WHITEWATER BROOK
WEDS CASTLE ROCK
LION'S HEAD
THE LITTLE BAY
THE NEEDLES OR CANDLESTICKS
BROAD STRAND
GREEN BAY
ST FINTAN'S
SUTTON HOUSE
HOWTH ELECTRIC TRAMWAY
TRAMWAY LINE
BALLYCOOL
SNUGBOROUGH
DEANESTOWN
SHEE
ABBOTSTOWN
BLANCHARDSTOWN
CASTLEKNOCK
ST VINCENT'S COLLEGE
TO NAVAN
PALMERSTON
LUCAN
REDCOWFARM
SAINTLA
CHAP
JOHNSTOWN
BALLYFERMOT
ROCHES
GOLF
BALLI
ESTOWN DOMAIN

IV.—HYGIENE.

A consideration of the present state of hygiene in an ancient city like Dublin may properly be preceded by some reference to its growth, and to the development of the laws of sanitation. Hygiene is a science of comparatively modern times, and in the Middle Ages it was present in towns only to the extent of the prevalent winds. As congestion increased within the restricted limits of Dublin, the houses in the existing streets were rebuilt with a greater number of storeys. After dark there was no public lighting, and the sense of self-preservation prevented the citizens for many centuries extending the area of the city. Houses became lofty, and the rere spaces restricted, so that the prototype of our modern tenement was developed. Where conditions such as these exist to-day, they involve the peril of disease. In the past great plagues have ravished this ancient and always beautiful city. Now, as then, misery and death lurk in such an environment.

About the middle of the nineteenth century, owing to the abnormal death-rate, and the frequent epidemics, the conditions of the poorer quarters attracted considerable attention. At that time investigation disclosed some painful and startling conditions, as nearly all the houses were without proper sanitary accommodation, or sufficient water supply for domestic purposes. It may be correctly stated that the present generation could not conceive the general conditions of poverty, disease, and overcrowding then ruling in the city. Humane and charitable citizens endeavoured to improve the living conditions of the poorer classes, and prominent among these was Dr. Thomas Willis, who published a book upon the subject in 1845. This publication made the startling announcement with regard to the lowest class of the city population," only one-third of them survived their twentieth year."

Hygiene of a public character to-day depends, to a large extent, upon the presence and efficiency of the essential public services of water supply and drainage. For many years the water supply of the city was derived from the reservoirs at Blessington Street on the north side, and James's Street on the south side. Owing to the limited supply, its use was necessarily restricted even to a few hours on fixed days only. In the poorer districts the citizens had no adequate means of storage, and in consequence the supply had to be limited, with the result of much inconvenience, uncleanliness, and ill-health. About the year 1868 the Vartry water was introduced into the city, and the supply became general for domestic and other purposes. Up to this period very little of the sanitary accommodation was of the water-borne system, tenements having the dry privy and ashpit combined, which resulted in foul conditions; while cleansing of the streets and protection from fire were almost entirely neglected. With the aid of these services and the Public Health Act, 1878, the public authority enforced the abolition of the old system. In 1882 there were over 11,000 privies in the city, but at the present time the old system has ceased to exist within the city area.

Within present memory the insanitary conditions have been greatly altered through the exertions of the public authority under the direction of the late Sir Charles Cameron, M.O.H., and were it not owing to poverty and congestion, a great deal more could have been done.

POPULATION.

The first public Census took place in 1821.

At the Census of 1688, the population of the municipal area of Dublin was given as 64,500.

Census :

1798	172,091	1841	232,726	1881	249,602
1804	167,899	1851	261,700	1891	245,001
1821	178,603	1861	254,808	1901	290,638
1831	204,155	1871	246,326	1911	304,802

No Census has been taken since the last-mentioned year, but the population, as estimated by the Registrar-General, is as follows :—

1912	306,573	1916	303,600	1921	324,000
1913	308,187	1917	305,100	1922	327,000
1914	310,467	1919	310,500	1923	330,000
1915	312,747	1920	318,200	1924	333,000

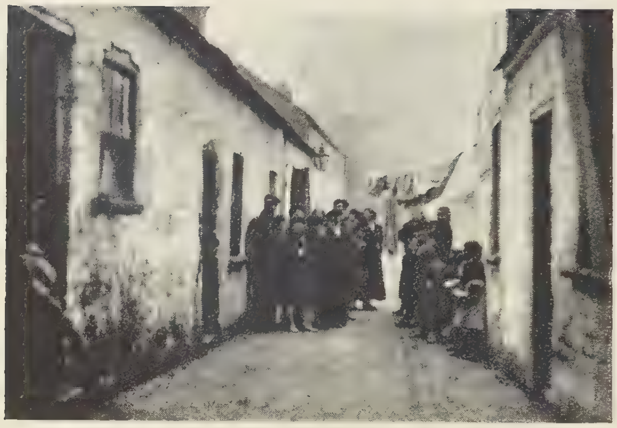
The Census for the Urban Districts in 1911 is given as follows—these not having been incorporated in 1841 :—

Rathmines Urban District	37,840	Pembroke Urban District	29,294
Blackrock Urban District	9,080	Dun Laoghaire Urban District	17,219
Killiney Urban District	2,721	Dalkey Urban District	3,536

Howth Urban District was not incorporated until 1917. The Census for the municipal area in 1901 and 1911 included the added areas of Clontarf East and West, Drumcondra, Glasnevin and New Kilmainham. The area of the city within-the-walls in 1600 was about 22 acres ; in 1924 it is 8,172 acres, or about 371 times larger.

In the Dublin Registration Area for the year 1922, the estimated population for the city of Dublin is given as 327,000, and the total of the Urban Districts 100,000. According to the Census of 1911 the density of population for the county of Dublin was 0·79 persons per acre, and for the city of Dublin 38·5 persons per acre. The municipal wards, according to the same Census, have a similar density, ranging from 4·5 (Clontarf East) to 138·3 (Wood Quay). The four most congested Wards in the city are Wood Quay (138·3), Mountjoy (117·6), Rotunda (113·2), and Inns Quay (103·1). The average density given for the municipal area is misleading, as it is watered down by large semi-rural districts included in the added areas, so that in reality it is much higher. The average density of twenty of the largest towns in Great Britain is only 17·3, whereas in Dublin it is 38·5. In Edinburgh it is only 13 persons per acre, with a population of 420,000.

It has been found in cities elsewhere that density is clearly the factor most consistently conducive to high mortality, and a tendency can be traced to a rise in death-rates corresponding to increased density of population when this figure exceeds 50 per acre, and a real and serious excess mortality when the figure reaches 100. Nevertheless, in Dublin in at least one Ward it is 138·3, and that thirteen years ago ! In congested towns public health can be greatly improved by a re-distribution of the population. Where there is overcrowding there must be insanitation, which leads to ill-health and a high death-rate. The influence of large numbers of tenement



Mark's Court (off Mark's Lane).

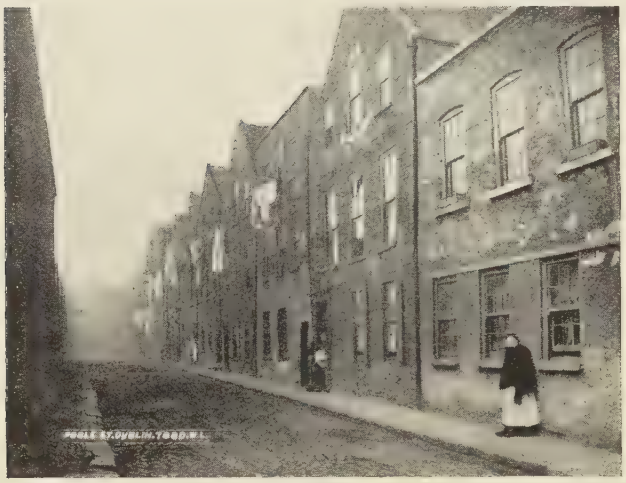
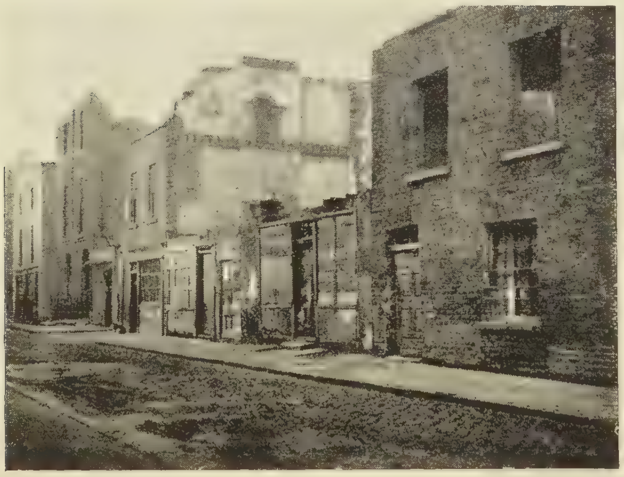


Photo by] [Lawrence.

Poole Street (off Pimlico).



Railway Street (off Marlboro' Street).

SLUM AREAS.

dwellings on the death-rate of Dublin must be considerable. In Liverpool thirty years ago the death-rate was annually 60 per 1,000 of the population, and by improved housing and sanitation it was 13·6 per 1,000 in the year 1924. In the year 1922 in Dublin the death-rate varied in registration districts from 20·1 per 1,000 (City) to 11·5 per 1,000 (Suburban) according as the density of population decreased, and for the same districts the infantile (under one year) mortality was 3·7 and 1·8, or 160 and 21 infants per 1,000, respectively. For the city of Dublin the average death-rate per 1,000 persons in 1922 was 17·6, and for the total of the Urban Districts 15·0, whereas in the congested, smoke-laden city of Sheffield for the same year it was only 11·7. By these statistics one is reminded of the Italian proverb : "Where the sun does not go the doctor goes." In the same year the infantile (under one year) mortality in the city of Dublin reached 1,027 infants, and the total of the Urban Districts 177 ! The death-rate between the ages of 15 years and 75 years was 45 and 217 respectively. In the same year, and in the same respective districts, the deaths from measles were, Dublin, 170 ; Urban Districts, 10 ; and from diarrhœa (children under 2 years) 158 and 123 !

TABLE FOR DUBLIN AREA, YEAR 1922.

REGISTRATION DISTRICTS.	Estimated Population	Deaths per 1,000.	DEATHS PER 1,000.		CENSUS OF 1911.	
			Under One Year.	Notifiable Diseases.	Municipal Wards.	Density per Acre.
North City, No. 1 E. ..	31,600	19·6	4·9	·9	Arran Quay ..	61·5 †
" No. 1 W. ..	43,300	20·1	3·7	·8	Clontarf E. ..	4·5
" No. 2 ..	29,000	18·7	4·0	·4	Clontarf W. ..	8·1
" No. 3 ..	35,000	15·2	2·7	·6	Drumcondra ..	13·5
Clontarf and Howth (part of)	5,800	14·7	1·7	·2	Fitzwilliam ..	61·4 †
Coolock& Drumcondra (part of)	14,300	13·4	1·5	·3	Glasnevin ..	12·3
Finglas and Glasnevin (part of)	11,700	11·5 ‡	1·8	.2	Inns Quay ..	103·1 *
South City, No. 1 ..	45,300	17·1	2·4	1·0	Mansion House	98·1 †
" No. 2 ..	19,100	18·2	2·4	·8	Merchants' Quay	82·1 †
" No. 3 ..	45,600	18·5	3·5	·9	Mountjoy ..	117·6 *
" No. 4 ..	34,500	18·4	3·0	·5	New Kilmainham	10·6
New Kilmainham ..	10,900	14·0	2·6	·3	North City ..	96·2 †
Rathmines and Rathgar ..	41,500	14·2	1·3	·5	North Dock ..	43·4
Pembroke	31,100	15·3	2·3	·9	Rotunda ..	113·2 *
Blackrock	9,900	12·9	1·2	·1	Royal Exchange	92·0 †
Dun Laoghaire	17,500	17·7	2·2	·1	South City ..	71·4 †
					South Dock ..	37·4
TOTAL, City of Dublin ..	327,000	17·6	120·0	—	Trinity ..	69·3 †
TOTAL, Urban Districts ..	100,000	15·0	94·75	—	Usher's Quay ..	36·2
TOTAL, Registration Districts	427,000	17·0	116·0	—	Wood Quay ..	138·3 *

* Seriously congested. † Over hygienic density. ‡ Lowest death rates.

NOTE.—It appears from the above table that according to the Census taken thirteen years ago, only eight out of twenty municipal wards possess an hygienic density in accordance with modern sanitation. According to the estimated population in 1922, only one registration district out of sixteen has as low an average death-rate per 1,000 as Sheffield.

From the Registrar-General's Returns for the year 1922 we find that of the 7,800 deaths registered in the Dublin Registration Area during the year, 2,009 or 25·5 *per cent.* were those of *Children under* 5 *years of age*, and 2,025 or 25·7 per cent. were those of persons aged 65 years and upwards, including the deaths of 859 persons aged 75 years and upwards, of whom 45 were stated to be nonogenarians, and two (females) were reported to have been each aged 101 years.

The rate represented by deaths of children under 5 years of age during the same year was 45·8 per 1,000 of the population at this age-period, as compared with an average of 57·4 for the ten preceding years, so that this abnormal rate is slowly falling.

The rate per 1,000 for deaths of children aged 5 *and under* 15 for the same year was 3·8, and the average for the preceding ten years 5·3, so that this rate is also falling.

The rate per 1,000 for deaths of persons *between* 15 *and under* 25 for the same year was 6·0, and the average for the preceding ten years 6·6, so that this rate is almost stationary.

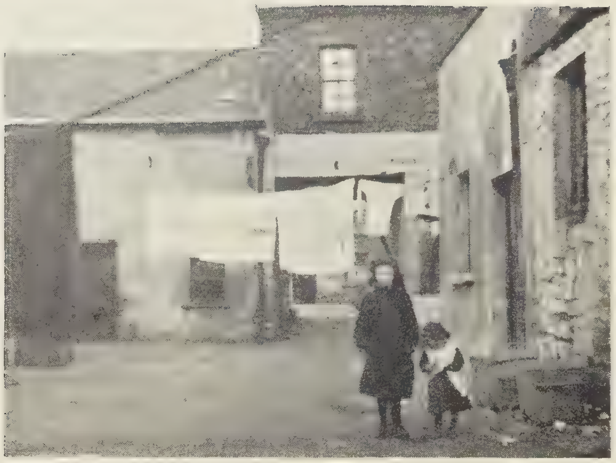
The rate per 1,000 for deaths of persons *between* 25 *and under* 45 for the same year was 8·6, and the average for the preceding ten years 11·4, so that this rate is falling considerably.

The rate per 1,000 for deaths of persons *between* 45 *and under* 65 for the same year was 29·9, as compared with the preceding average of 33·0, so that this rate shows a considerable falling.

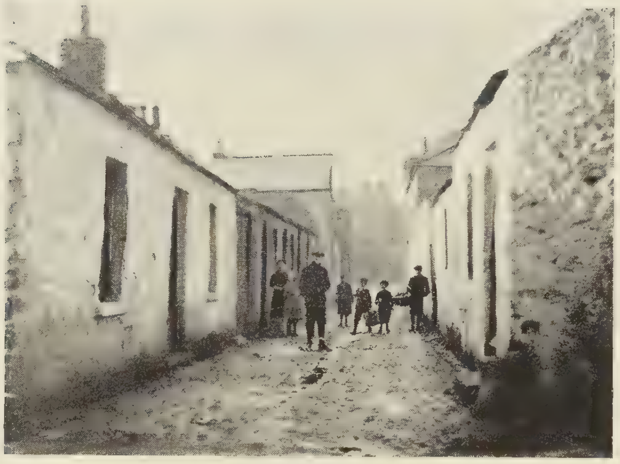
The rate per 1,000 for deaths of persons *between* 65 *and under* 75 for the same year was 64·4, as compared with the preceding average of 69·5, so that this rate also shows a considerable falling.

The outstanding feature of the death-rate in Dublin is the infant mortality (i.e., deaths of infants under one year of age per 1,000 births), and within the Dublin Registration Area in 1922 this rate was 116! Amongst the causes are ignorance, poverty and congestion, and possibly the first-mentioned is worse than the others. The rate is, however, slowly falling, as in 1919 it was 141 per thousand, in 1920 143, and in 1921 134. Within the municipal area it is falling more steadily, but it was in 1922 120 per 1,000! and the average for the Urban Districts 94·75 per 1,000! and during the ten years 1912-21 in the whole Registration Area it was an average of 144 deaths per 1,000 births! From these figures we see that at least one infant is lost from preventible causes out of ten born, the result being practically the same to the nation as birth-control, but the cause of more suffering. In Ireland, as in other countries, a decline in the birth-rate is considered to be of grave national concern, as children are the substance of which nations are built, yet in Irish cities a high infantile death-rate achieves the same ultimate effect. A happy sign of a humanitarian trend in public thought elsewhere is the rapid growth of the Child Welfare Movement. Only about fifteen years ago it was practically unknown as an organised effort; to-day Welfare Centres exist in every city and town of any size or importance. A voluntary organisation—the Women's National Health Association—in Dublin initiated such centres on a small scale, and since the Notification of Births Extension Act, a joint committee of this Association and the Infant Aid Society has formed the Central Child Welfare Organisation for the city. This committee receives a grant from the municipality. Until this year the Corporation has not undertaken any scheme, although funds were available from the Carnegie Trust. Owing to the widespread conditions of slum life in Dublin much more money is needed to carry on welfare work than in corresponding British cities.

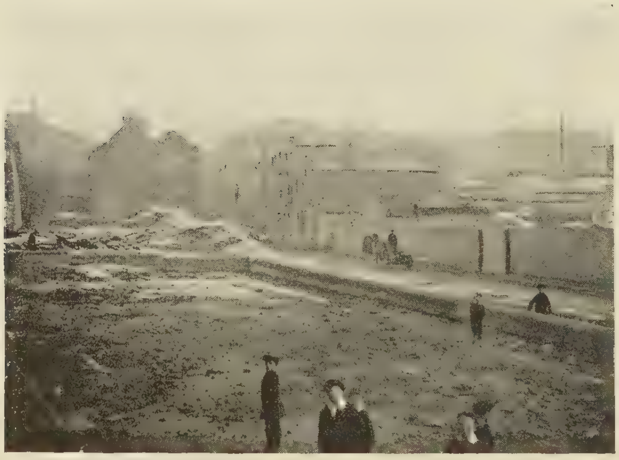
We have seen that the mortality of children under one year of age in Dublin is abnormally high. In the year 1915 it was higher than in 1906, and in the year 1922 there was little



Kennedy's Cottages (off Sandwith Place).

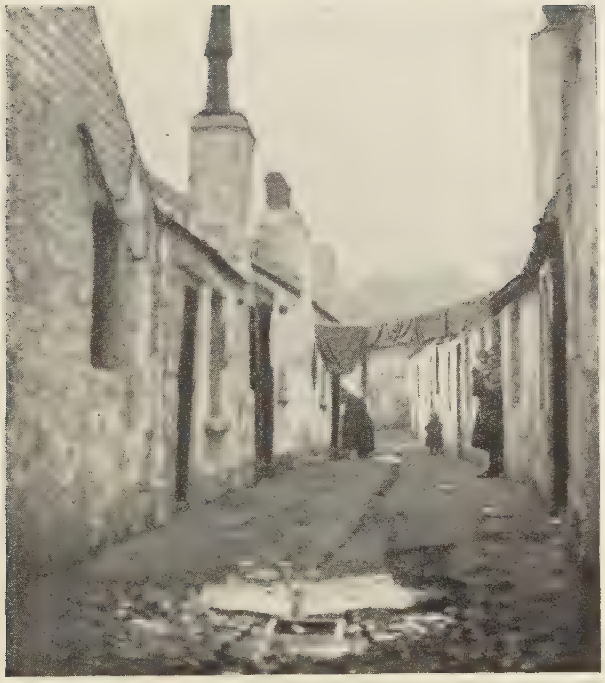


Dickson's Row (off Marrowbone Lane).

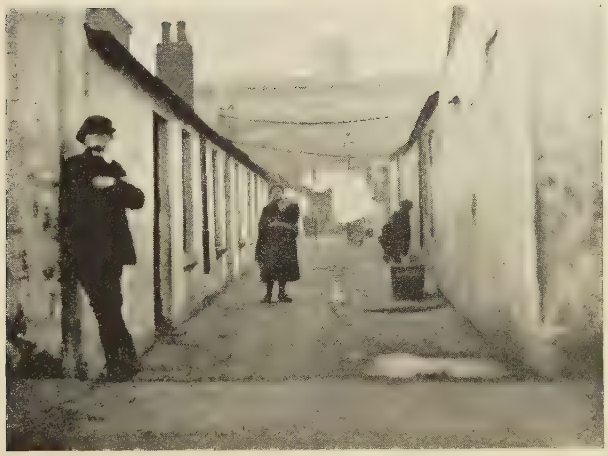


Cook Street (off Winetavern Street).

SLUM AREAS.



Plunkett's Cottages (off Sandwith Street).



Brady's Cottages (off Townsend Street).

SLUM AREAS.

improvement. In English municipalities during the last ten years it has been steadily decreasing. The children of poor parents who must resort to assistance of some kind may be divided into two classes: (*a*) Cases for Poor Law Care; (*b*) cases for Voluntary Organisation Care. The fact that this care under the two main classes has existed for more than ten years in the city area without having any appreciable effect on the mortality returns shows that there is a great want somewhere. The following suggestions may be of service. Class (*a*)—That all foster-mothers for children be registered, and possess efficiency certificates before receiving children; workhouse nurseries to be completely reorganised. Class (*b*)—Greater caution in the entrusting of children by voluntary organisation. Payments to foster-mothers should only be made weekly, and only on the certificate of the Health Visitor, and the bonus system of adoption is one that cannot be defended.

A Central Infants' Clinic should be established in Dublin, which would have a great value for training purposes. A co-ordination of the work of day nurseries and baby clubs is essential, and facilities for better instruction should be afforded. An adequate supply of good milk at a low price should be guaranteed to the poor mothers. The Health Visitors should keep in close touch with the Dispensary Doctors. At least three child welfare centres should be established in convenient central areas of the city, and maintained by the municipal authorities. The status of illegitimate children should be improved by Law, and provision made for the maintenance of unmarried mothers, if possible in their home districts. There is a great need for the education of public opinion in this country with regard to the humane treatment of the unmarried mother, and in no country in Europe is there such a warped judgment upon this subject.

Under the auspices of the Women's National Health Association babies clubs have been established in the city, as follows:—

North City Dispensary Districts:

* Our Lady of Lourdes Club,
9 Upper Buckingham Street.
St. Laurence O'Toole's Club,
100 Seville Place.
St. Anthony's Club,
Children's Hospital, Temple Street.
* Slainte Club,
6 Blackhall Place.

South City Dispensary Districts:

The Gordon Club,
48 The Coombe.
St. Monica's Club,
29 Castle Street.
St. Patrick's Club,
Chatham Row.
St. Andrew's Club,
10 Lower Mount Street.

* Children's Dental Clinic attached.

In all these clubs the general plan of operations is the same, and consists of weekly or fortnightly visits from the doctor, who holds a sort of clinic; gives instruction and advice, which is supplemented by visits from the nurse attached to each club. Unfortunately, it is necessary that a great deal of the small funds available must be spent upon medical services. Folk dancing and supervised play for the older children is carried on at some of the clubs.

The Infant Aid Society have six fully trained nurses who visit, under the Notification of Births Act, and are assisted in this work by over 100 voluntary visitors, who devote their leisure to visiting necessitous cases, and, when necessary, free milk and dinners are given. These visitors undergo a short course of instruction before receiving the badge which authorises them to work.

Day Nurseries or Crèches exist in various parts of the city where babies can be left for a small charge, if the mother provides the food for the day. The best known are in Meath Street, Gardiner Street, and Power's Court.

In Pembroke, Rathmines, Blackrock, Dun Laoghaire, child welfare schemes are organised under the municipality, the centres being as follows :—

Pembroke : 10 Thorncastle Place, Ringsend.
Rathmines : 27 Harold's Cross.
Blackrock : Town Hall, Blackrock.
Dun Laoghaire : Eblana Avenue.
South Dublin Rural District : The Strand, Milltown, and the Carnegie Library, Rathfarnham.

The Dublin County Council prepared a very comprehensive Scheme for child welfare and school inspection which has not yet come into operation.

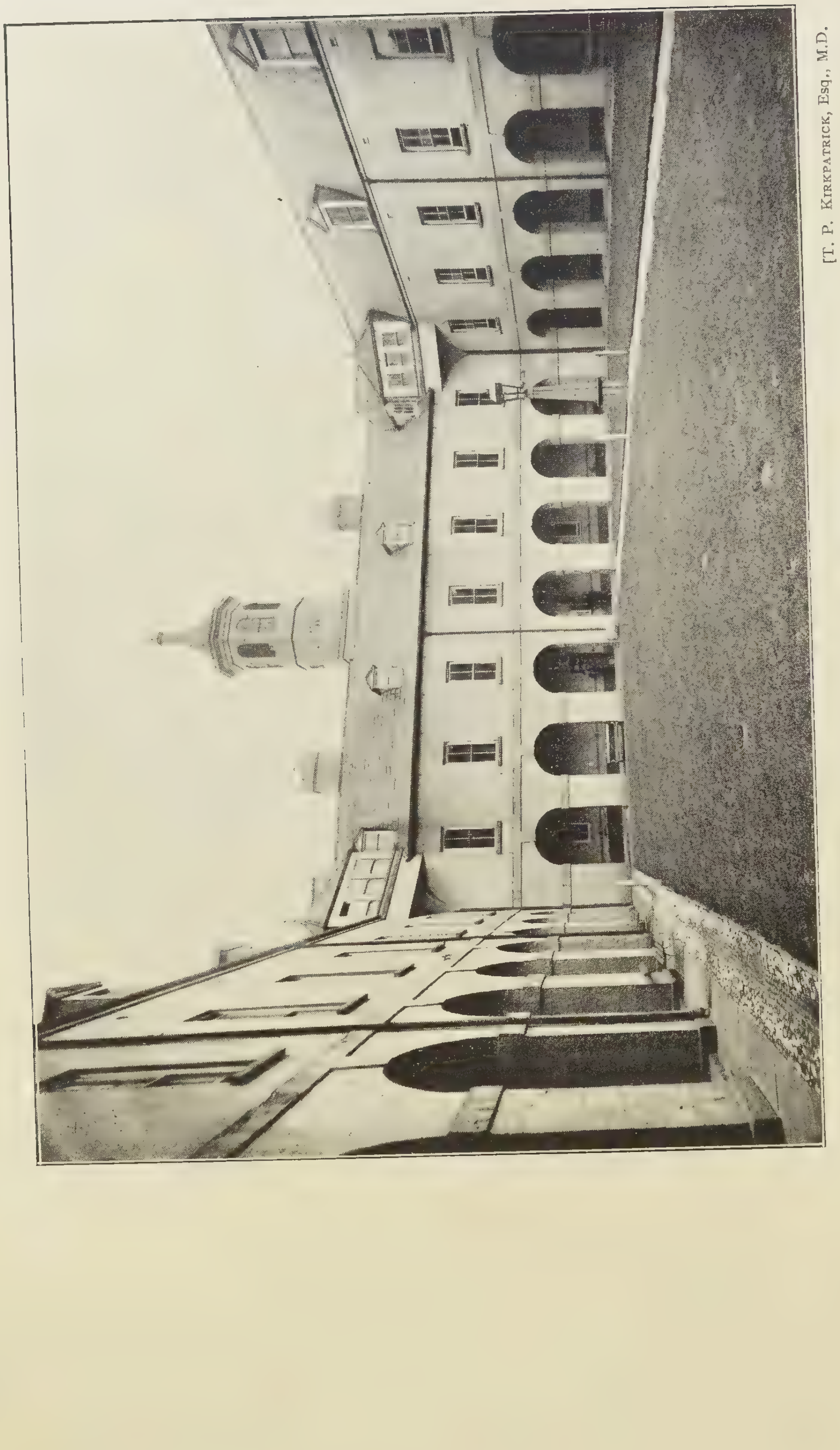
The list of diseases made notifiable by the Sanitary Authorities in Dublin is as follows : Acute Primary Pneumonia, Acute Influensal Pneumonia, Acute Poliomyelitis, Asiatic Cholera, Cerebro-Spinal Fever, Continued Fever, Diphtheria, Dysentery, Erysipelas, Malaria, Membranous Croup, Puerperal Fever, Relapsing Fever, Scarlet Fever, Smallpox, Trench Fever, Typhoid or Enteric Fever, Typhus.

A largely contributing factor to high death-rates is the presence of insanitary areas, or areas of special poverty.

Within the comparatively small area of the city of Dublin there are large and numerous unhealthy areas, and in some cases they touch good class residential or business districts. The professional and prosperous business classes may not care how the man in the back street lives, but his condition affects the death-rate for all. In this city there are about 3,000 insanitary houses, with a population of about 20,000, in insanitary areas ! The sites of the principal areas are as follows : Boyne Street (Westland Row), now being rebuilt ; Blackpitts (Clanbrassil Street), Cole's Lane (Henry Street), Cook Street (Winetavern Street), Crabbe Lane (Mercer Street), Dunne's Row (North Clarence Street), Fitzwilliam Lane (Pembroke Street), Hill Street (Parnell Street), Loftus Lane (Parnell Street), Mary's Lane (Capel Street), Newfoundland Street (Seville Place), Spitalfields (Francis Street), etc., etc. There are also large tracts of the central city area which are tenement-ridden, and rapidly declining into unhealthy areas. These are shown in black tint upon the Hygiene Maps of the Survey. Some of the worst parts of the metropolis were once the seat of prosperous industries, where our ancestors heard the hum of trade. The industries and the trade are gone—the poor and the tenements are left. From the public health standpoint the remedies which have already been applied have so far failed to stem the tide of decay and insanitation. We may well ask the citizen of to-day to ponder well on what is to become of his civic heritage in the future. *A drastic remedy must be sought for, and applied at once.*

There are unhealthy areas also within the Urban District of Rathmines, principally at Church Place, Rathmines Avenue, Grove Road, and Westmoreland Park ; within the Urban District of Pembroke, principally at Ringsend, Ballsbridge, Haddington Road, Mespil Road, Donnybrook,

PLATE XXXIV.



Quadrangle, *Steevens' Hospital.*

By courtesy of] [T. P. Kirkpatrick, Esq., M.D.

and Clonskeagh; within the Urban District of Killiney at Madden's Lane, Loughlinstown Commons, Shanganagh, and Killiney Village; and within the Urban District of Howth, near the R.C. Chapel.

CITY TENEMENTS.

Although the condition of the tenement houses is still very bad, yet it has been greatly improved during the past thirty years by the efforts of the Sanitary Staff of the public authority. Formerly many of the houses had no sanitary accommodation whatever, and some had sanitary accommodation provided for them in yards at considerable distance from the house. A large number of these houses until recent years had no water services installed. This is now being gradually remedied, but still, in many instances, the tenants exhibit great indifference to the filthy state of their abodes, and when appliances are fitted they abuse them. In the present state of the law tenants cannot be made responsible for certain insanitary conditions created by themselves in their dwellings. Tenement owners thwart the Sanitary Inspectors as far as possible. More than 15,000 notices to abate nuisances are given annually, and about 1,000 summonses to the Police Court have to be issued annually to enforce the observance of the notices. The twenty-eight Sanitary Sub-officers engaged in inspectorial work find it very difficult to overtake the heavy amount of work.

HOSPITALS.

An ample provision appears to exist in Dublin and environs in public and private Hospitals and Nursing Homes.

Within the municipal area there are nine General Public Hospitals, in addition to three Special Public Hospitals, viz.: Hardwicke (Fever), Richmond (Surgical), and Whitworth (Medical) in North Brunswick Street. The sites of the nine Hospitals are situate as follows: Steevens' Lane (Dr. Steevens'), Jervis Street, Johnston's Place (Mercer's), Grand Canal Street (Sir Patrick Dun's), Whitworth Road (Drumcondra), Heytesbury Street (Meath), Stephen's Green E. (St. Vincent's), Peter Street (Adelaide Hospital), Eccles Street (Mater Misericordiæ).

Within the Urban Districts there are three General Public Hospitals, viz.: City of Dublin (Pembroke), Monkstown (Dun Laoghaire), St. Michael's (Dun Laoghaire).

Within the municipal area there are three Maternity Public Hospitals (Rotunda, Coombe, and Holles Street), and none in the Urban Districts.

Within the municipal area there are three Public Children's Hospitals (Temple Street, Harcourt Street, and St. Ultan's) and none in the Urban Districts.

Within the municipal area there are two Public Fever Hospitals (Cork Street and Hardwicke). Rathmines and Pembroke Urban District Councils have joint control of the Isolation Hospital at Vergemont, Clonskeagh.

Within the municipal area there is one Rest for the Dying (Camden Row) and one Hospice for the Dying (Harold's Cross) in the Urban District of Rathmines, and one House of Rest (St. John's, Merrion), and one Hospital for Incurables (Donnybrook) in the Urban District of Pembroke.

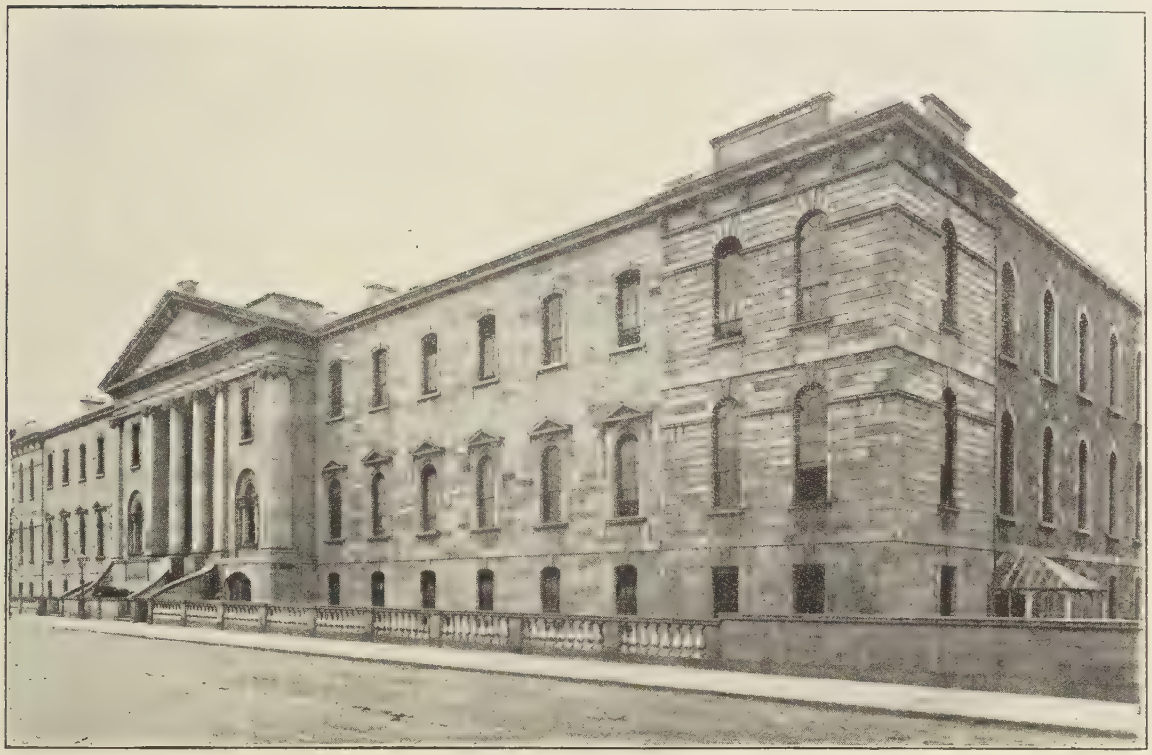
Within the municipal area there is one Orthopædic Hospital (Merrion Street), one Eye and Ear Hospital (Adelaide Road), one Skin Hospital (Holles Street), one Cancer Hospital (Hume Street), one Tuberculosis Hospital (Pigeon House), one Dental Hospital (Lincoln Place), one Lock Hospital (Townsend Street), and several Military Hospitals.

Particulars have been obtained of the following :—

HOSPITAL.	Number of Beds.	In-Patients (1923).	Out-Patients (1923).
Mater Misericordiæ	384	4,011	29,081
Skin Hospital, Holles Street	45	182	841
Adelaide Hospital	155	1,569	18,267
Steevens' Hospital	200	1,170	28,297
Children's Hospital, Harcourt Street	55	262	3,508
City of Dublin	130	1,256	13,210
Cork Street	284	2,117	—
Rotunda	127	2,054	10,078
Mercer's	100	1,262	12,668
Royal Hospital for Incurables	223	266	9
Orthopædic	80	181	883
St. Vincent's	172	2,003	25,126*
Coombe	70	3,133	5,478
Jervis Street	120	1,164	14,734
Sir Patrick Dun's	120	1,470	24,970
Meath	150	1,566	22,508
TOTAL	2,295	23,666	209,658

* Including Dispensary.

Within the environs of Dublin are seven Public Convalescent Homes, viz. : Stillorgan, Linden (Blackrock), Beneavin (Glasnevin), Beaumont (Artane), Newtown (Rathfarnham), and one Private Home (Hazlewood, Dundrum). Cappagh is for the treatment of surgical tuberculosis in children.



By courtesy of the] *Mater Hospital.* [Rev. Mother Superioress, Mater Hospital.

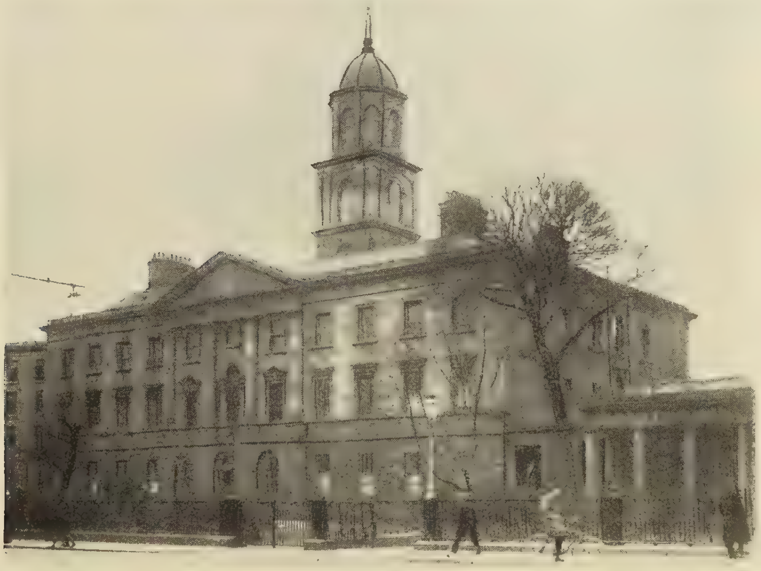


Photo by H. M. Dockrell] [By courtesy of the Dublin Camera Club.

The Rotunda Hospital.

There are a large number of Nursing Homes in Dublin and environs. We have obtained records of twenty-seven of them. The addresses, with number of beds, are as follows :—

Nursing Home.	Number of Beds.	Nursing Home.	Number of Beds.
3 and 4 Pembroke Street, Up	20	34 Lower Leeson Street	12
Glenaboy, Botanic Road ..	6	40 Lower Leeson Street ..	10
32 to 38 Eccles Street ..	55	94 and 96 Lower Leeson St.	40
54 Upper Mount Street ..	8	49 Lower Leeson Street	25
7 Mount Street Crescent	18	27 Mountjoy Square ..	23
39 Upper Mount Street ..	18	28 Upper Merrion Street	15
5 Mount Street Crescent	8	87, 88, 89 Lr. Baggot Street	15
29 Upper Mount Street ..	10	40 Upper Fitzwilliam Street	14
Portobello House, Portobello	21	26 Upper Pembroke Street	22
33 Upper Fitzwilliam Street	6	37 Lower Leeson Street ..	13
Elpis, Lower Mount Street	27	Ivanhoe, Lansdowne Road	10
17 Earlsfort Terrace ..	9	58 Stephen's Green ..	22
13-14 Earlsfort Terrace ..	28	450 North Circular Road	3
93 Lower Baggot Street	6		

The attendances at the Out-patient Departments of the public hospitals show a gross total of 209,658 patients for the year 1923, exclusive of several thousand accident cases, in addition to which large numbers of country folk make use of internal hospital treatment in the city. The Dublin hospitals are thus unfairly burdened with responsibility, and although there are so many they are always full. Amalgamation of certain hospitals would result in diminished administrative cost. The comment of one of the chief medical officers, with which others agree, is as follows :

> " Our experience in the Hospital is that the majority, if not all cases of serious disease, come from the slums and tenement dwellings—want of sunshine, air and necessary sleeping space undoubtedly predispose to disease."

According to the Census of 1911, the hospital provision in Dublin city consisted of one bed to 123 inhabitants.

There is now within the municipal area one Workhouse (the Dublin Union, James's Street). For the year ending 31st March, 1923, in this institution there were 5,338 inmates, and 121,135 persons on outdoor relief ! The hospitals of this institution, including provision for mental cases, have for males 868 beds, and for females 967 beds, with bed provision at the Auxiliaries of Cabra and Pelletstown for 873. If we add the number of inmates to the number on outdoor relief we get a total of over 126,000 paupers, as compared with an estimated city population (1922) of 327,000 !

MAIN DRAINAGE.

There can be no question that the municipal area is now provided with one of the finest main drainage systems in any city of the world. On the 24th September, 1906, the Main

Drainage Works were declared complete after nearly three-quarters of a century since the project was first mooted. In the year 1871 the Corporation promoted a Bill in the British Parliament known subsequently as "The Dublin Main Drainage and Purification of Liffey Act, 1871," which made provision for, not only the city of Dublin, but also the Pembroke and Rathmines Urban Districts. In August, 1875, another Act was passed which empowered the Corporation to borrow £500,000 for the works. The Government declined to advance the money, and it was not until the year 1892 that the Government allowed the scheme to proceed, provided that the money was raised by the issue of Corporation Stock.

Previous to the passing of the Public Health Act, 1878, the river water was comparatively pure, as there was no water-borne system for domestic drainage, but subsequently this Act was indirectly the cause of the fouling of the river Liffey.

The Main Drainage Works were designed in 1891, to provide for a future population of 385,000, and to embrace the area of the city as extended in 1900. The effect has been to purify the Tolka river and the Clontarf foreshore on the north side, and the Camac river, Dodder river and Pembroke foreshore on the south side. The internal main drainage of the city is dealt with chiefly by two main intercepting sewers, one on the northern quays and the other on the southern quays. That on the northern side commences in Parkgate Street at Infirmary Road, and ends opposite Marlborough Street, where it is joined by the drainage coming from Drumcondra, Glasnevin, Clontarf and the north-eastern portion of the city, the entire then passing under the river Liffey (by means of a syphon) to Burgh Quay, where it is joined by the main intercepting sewer on the south side of the river. From Burgh Quay to Victoria Bridge (by an eight-feet circular brick and concrete sewer), then under Grand Canal Docks, tunnelled as before. From Victoria Bridge the sewer is continued (by an eight-feet circular cast-iron sewer) to the Pumping Station on Pigeon House Road. The syphon under the river is constructed of cast-iron pipes, lined with blue bricks finishing to a diameter of 3 feet 4 inches. It is carried through solid rock at a depth of 21 feet under the bed of the river in mid-stream. At the pumping station there are four main pumps (one in reserve) constantly working, which can lift 15,000,000 gallons per day (twenty-four hours). There are also two small pumps (one in reserve). The total working capacity of the three large and one small pumps is 46,107,000 gallons per day, but if it was necessary to work all pumps 62,214,000 gallons per day could be lifted. The continuous precipitation is the process of clarification. The sludge which remains after precipitation is discharged by the specially-built *Shamrock* six miles out from Poolbeg Lighthouse.

The total cost of the Main Drainage Works was £508,000 and, considering the almost insuperable difficulties in construction, it remains one of the finest of municipal engineering achievements.

The late Spencer Harty, City Engineer, had charge of the Main Drainage Works, with George Chatterton as Consulting Engineer.

The Urban Districts are provided with drainage as follows: In Rathmines the main drainage joins with the Pembroke system in the grounds of the Hospital for Incurables at Donnybrook. The system is composed of 5 feet and 4 feet diameter barrel sewers; 3 feet 5 inches and 2 feet 6 inches diameter egg-shaped sewers, and 18-inch and 24-inch pipe sewers. The Pembroke system is connected with the Rathmines system. The Blackrock system flows towards Dun Laoghaire, and has its outfall discharging into tidal waters. The Dun Laoghaire system also discharges into tidal water. In Dalkey and Killiney a limited system of drainage exists. Where there is no sewerage the better class property is drained into sewer tanks and cesspits, and the cheaper class property has privies only. In Howth the same conditions apply as in Dalkey and Killiney.

The Urban Districts, with the exception of Rathmines, have no up-to-date public conveniences.

WATER SUPPLY.

The city and environs are provided with a system of public water supply, no less fine than the system of main drainage. As adjuncts to public health there could be no more necessary services.

The city of Dublin first obtained water from a source outside its boundary by means of an artificial watercourse, in a manner more or less comparable with the most modern methods, so far back as the year 1245. This supply was taken from the river Dodder, and the watercourse, now 679 years old, is still maintained by the citizens, and some supplies of water continue to be taken from it.

The construction of the Grand Canal was begun in the year 1755, and that of the Royal Canal in 1789. A supply of water was taken from them in the year 1806, and this supply is also still availed of for industrial purposes.

In the year 1853 the Waterworks Committee directed the City Engineer, Mr. Parke Neville, to make a survey of the Dodder. In the following year the Committee appointed three members to select a Consulting Engineer to consult and advise generally on the best plan to be adopted for a supply of water at high pressure to the City. Mr. Thomas Hawksley, M.Inst.C.E., of London, was selected, and in 1855 he came to Dublin.

Plans for a number of schemes, which had been obtained from several engineers, were submitted to him. One of these schemes was for a supply from the river Liffey, at Poulaphouca.

Mr. Richard Hassard, M.Inst.C.E.I., of Dublin, submitted a scheme for a supply from the river Vartry. In August, 1860, Sir John Hawkshaw held a Commission of Inquiry into fourteen different schemes, and in October following he reported in favour of the source selected by Mr. Hassard.

The Dublin Corporation Waterworks Act, 1861, was signed on the 22nd July, and the work was begun on the 10th November, 1862. On the 21st July, 1866, the filling of the Reservoir was commenced, and the township of Pembroke received a supply of Vartry water in that year. It was subsequently found necessary to interrupt the supply, and on the 10th February, 1868, it was resumed, and extended to the city of Dublin, and the townships of Rathmines, Blackrock, Kingstown, Dalkey, Killiney, and Ballybrack and Bray, and the wide area lying to the west of those townships and extending from the city boundary as far south as Greystones, Delgany, Killadreenan and Newcastle. The supply has also been carried north of the city to Raheny, and as far west as Palmerstown.

There are two large impounding or storage reservoirs at Roundwood, Co. Wicklow, 670 feet above the street level at O'Connell Bridge, about 25 miles from Dublin. The total quantity of water stored is 3,600 million gallons, or 225 days' supply at 16 million gallons per diem.

There are ten filter beds, and two filtered water reservoirs immediately south of the storage reservoir, and the water is conveyed from the latter first through cast-iron pipes to a tunnel cut through the solid rock for a distance of about 2½ miles to Callow Hill, where it emerges from the tunnel. The quantity is measured there over a weir specially constructed for the purpose, and observations are made five times each day to ascertain the exact quantity supplied. There are two lines of cast-iron arterial mains, one 33-inch and the other 24-inch, extending all the way from Callow Hill to Stillorgan, a distance of nearly 20 miles. The water is conveyed from Callow Hill to a relief tank at Kilmurry, a distance of 6¼ miles, and then to Kilcroney, 3 miles further north. From this the 33-inch main descends into the valley of the Dargle, and across the high ridge bounding the valley on the north side. It then descends into the Cookstown valley, rising again and passing along near Fassaroe across the county brook dividing Wicklow and Dublin, through Ballyman, and on to Rathmichael relief tank.

From Rathmichael the 33-inch main continues in a north-westerly direction for 1½ miles until it meets the railway a short distance east of Carrickmines railway station. It then proceeds along the south-western side of the D. & S.E. Railway to a point a short distance north of Stillorgan Railway Station, where it crosses the railway, and discharges into the Stillorgan service reservoirs.

The 24-inch main, which is laid side by side with the 33-inch main from Callow Hill to Kilcroney, passes down Kilcroney Lane to the main road between Wicklow and Dublin, and continues along same to the lower Dargle Bridge. It continues then almost due north on the west side of the village of Old Connaught across under the D. & S.E. Railway to Loughlinstown and the boundary of Killiney and Ballybrack Urban District, and thence in a north-westerly direction through Cabinteely, Cornelscourt to the White Cross, along Leopardstown Road to the railway crossing, and then along the north-east side of the Railway to the Stillorgan service reservoirs. There is a branch off the 24-inch main into each of the relief tanks.

The first supply is given to St. Ann's Convent, in the townland of Trudder, Co. Wicklow, and other supplies are given to Trudder House, Kiladrennan, Newcastle Sanatorium, Newtownmountkennedy, Kilpeddar, and the broad extent of country stretching up to and beyond the city. (A 9-inch main is now being laid to supply the Urban District of Howth, a distance of about nine miles.)

Two separate mains are laid from the south end of the Glen of the Downs through Delgany to Greystones. There is an 8-inch main from Glencormack to the boundary of Bray at Killarney Lane. There is an 8-inch main from Rathmichael Tank to Killiney and Ballybrack Urban District boundary at Loughlinstown. A special 15-inch main was laid from Stillorgan through Newtownpark village, and through the middle of the Urban District of Dun Laoghaire to the boundary of the Urban District of Dalkey, a distance of over four miles.

Two 27-inch mains and a 24-inch main convey the water from the service reservoirs at Stillorgan to the city, and from these supplies are given to Blackrock and Pembroke Urban Districts.

A 16-inch main was laid from Stillorgan for the supply of Rathmines township. This main also serves for the supply of practically the whole of the area along Churchtown, Dundrum, Rathfarnham and Terenure. A 12-inch main was also laid originally from the 27-inch main at Morehampton Road, through the Appian Way, to Rathgar for the purpose of giving supplies to Rathmines and Rathgar Townships.

Altogether there are 313 miles of mains supplying an area of over 100 square miles.

PLATE XXXVII.

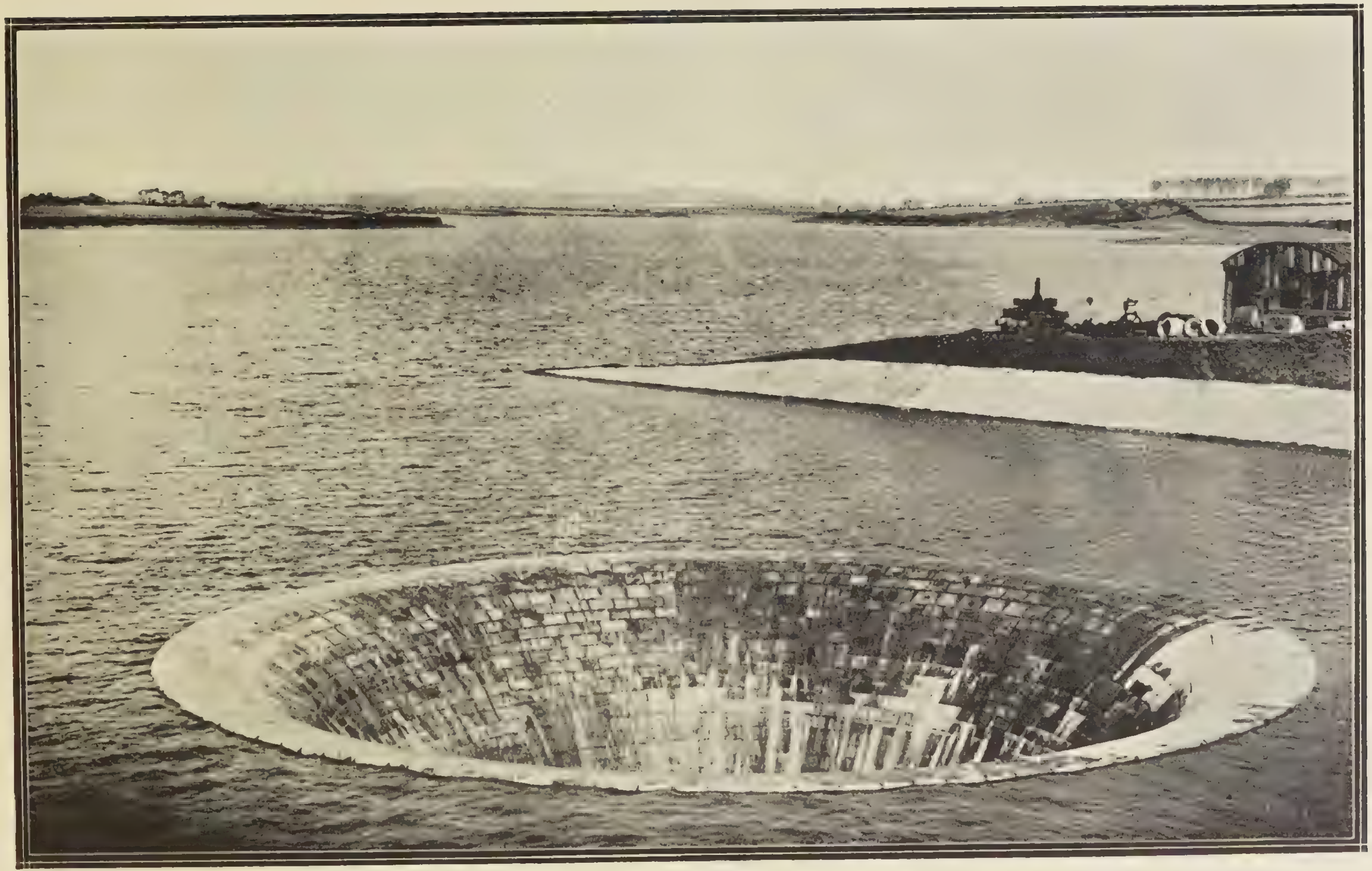


Photo by] [“The Irish Times.”

ROUNDWOOD WATERWORKS.

New Reservoir Overflow Shaft.

ABATTOIR AND SLAUGHTER-HOUSES.

There is but one Abattoir within the municipal area of Dublin, and none within the urban districts.

The Abattoir situate on the North Circular Road, close to a good residential district, is an antiquated building, quite inadequate for its purpose. The Corporation for several years has been contemplating its remodelling. The slaughtering and hanging accommodation is very congested, and this circumstance prevents the abolition of private slaughter-houses. The building does not appear to be capable of successful remodelling, and the site does not lend itself to extensions in necessary directions. The sheep slaughtering accommodation is particularly bad.

In the year 1882 the Corporation made Bye-laws with respect to Slaughter-houses—for the licensing, registering and inspection; for preventing cruelty therein; for keeping the same in a cleanly and healthy state; for removing filth at least once in every twenty-four hours, and requiring a sufficient supply of water. The methods of slaughter in these houses are, in many cases, antiquated, causing unnecessary suffering to the animals. Most traders generally are not in favour of any departure from the present method of slaughter. The " pole-axe " method for beasts is not favoured in England, as the " humane killers " give instant results. The " throat-cutting " method for sheep is also not favoured, and is being superseded by " Cass's Captive Bolts." A condition of the license for slaughter-houses in the city of Bath is that the " humane killer " be used. In England the matter receives the active attention of the R.S.P.C.A.

A serious situation exists with regard to the inadequacy of abattoir facilities, when it is realised that two-thirds of the killings required for the city's meat supply have to be provided for in about fifty private slaughter-houses, which are not open to adequate inspection. This inadequacy elsewhere would be considered as a serious menace to public health, and in Dublin it involves very high expenditure for partial supervision. The municipal abattoir should be equipped and extended in such a manner that there would be no necessity for private slaughter-houses, and therefore create the monopoly for the civic establishment which is its right.

The abattoir is kept working at full capacity, and for the year ending 31st December, 1922, the total killings were as follows: cattle, 10,641; sheep, 29,341; pigs, 2,459.

FIRE PROTECTION.

Within the municipal area of Dublin fire protection has reached a stage of great efficiency, and the organisation and appliances of the Fire Brigade are second to none in any city.

Dublin has had many big fires, but those referring to buildings of note may be recorded as follows: Dublin Castle, 1671; Custom House Stores, 1833; Royal Arcade, College Green, 1837; Bethesda House, etc., Mary Street, Abbey Street Theatre, 1839; St. Andrew's Church, 1860; Theatre Royal, 1880; South City Markets, 1892; Todd, Burns & Co., and Arnott & Co., 1900 and 1893; General Post Office, 1916; Custom House, 1921; Four Courts, 1922.

The steam fire engine marked the first great advance in fire protection, and its perfected form is a fine appliance. These engines were most carefully designed, and were so portable they could be moved rapidly to the scene of fires by a good pair of horses. However, the steam fire-engine, during the past ten years or so, is being fast superseded by those in which petrol or gas is the motive power. The design of fire-escape ladders has also developed later, and one of the first, and still the best, was invented by Captain Purcell, late chief of the Dublin Fire Brigade.

The Fire Brigade Stations in the city are at Tara Street (Central Station), Buckingham Street, Dorset Street, Thomas Street.

The Fire Brigade Stations in the environs are at Ballsbridge (Pembroke Urban District), Rathmines (Rathmines Urban District), Blackrock (Blackrock Urban District), Dun Laoghaire.

For the year ending the 31st December, 1923, the Dublin Brigade received 337 fire-calls, 35 of which were only chimney fires. Of the fires, other than chimney fires, 257 occurred within the city, 18 outside municipal area, and 67 were false alarms. The total estimated losses resulting from the city fires were £42,645. The average number of city fires per year for the ten years ending 1923 is 176.

During the year ending 31st December, 1923, the Pembroke Brigade received 42 fire-calls, of which 4 were false alarms; the Rathmines Brigade, 63 fire-calls, of which 17 were false alarms, and 17 calls from other districts; the Blackrock Brigade, one fire-call; Dun Laoghaire Brigade, 13 fire-calls.

For the same year the Dublin Fire Brigade received 2,436 ambulance-calls, and for which payment for 98 calls was made.

No annual report has been issued by the Medical Officer of Health for Dublin in recent years.

There are no annual reports available from Medical Officers dealing with the Urban or Rural Districts.

The Hygiene Maps of the survey illustrate the sites of public conveniences, baths, and wash-houses.

HYGIENE MAPS.

Explanatory Note.

The scale of the original Survey Map is 6 inches to the mile.

This Map deals with Density of Population, and with the Public Services.

The darkest tinting represents the most densely populated area, and the death rates in the registration districts are shown.

Black indicates unhealthy areas, and it will be seen that the areas shown thus represent a considerable part of the city.

The sites of Hospitals and Private Nursing Homes are shown, also the Workhouse, Asylums, and Cemeteries.

Red discs show Fire Stations, and blue discs Police Stations.

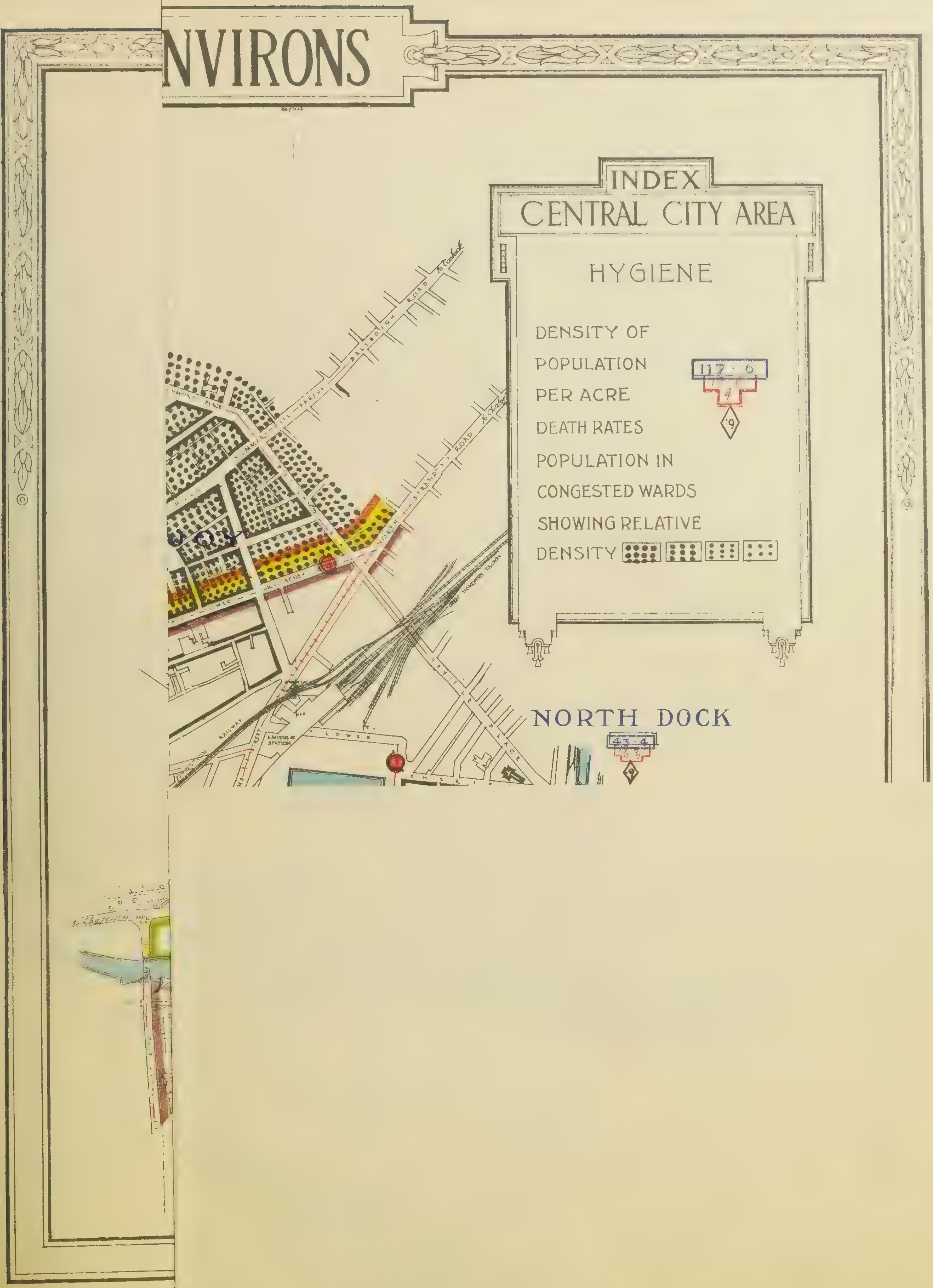
Red lines indicate main drainage, and blue lines water supply.

The scale of the original Survey Map is 25 inches to the mile.

The second Map is of the same section, but of the central area only. It shows the most congested wards, The unhealthy areas are outlined in black, and the most densely populated wards are indicated by dots, the largest dots showing the greatest congestion.

The hygienic density is considered to be 50 persons to the acre, and the population per acre in the four most congested wards in the city is as follows: Wood Quay, 138·3; Mountjoy, 117·6; Rotunda, 113·6; Inns Quay, 103·1. Thus, in each of these wards the population is seriously congested. The comparison per acre with the Urban Districts is remarkable—Rathmines having a population of 24·2 to the acre; Pembroke, 19·8; Blackrock, 9·2, and Dun Laoghaire, 11·9.

Yellow indicates the growth of the population taken from the last three census—1891, 1901, and 1911—the darkest tint representing the largest figure. The population in all four wards has increased. The sites of public conveniences are also shown.


NVIRONS
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PLACE
GREAT NORTHERN RAILWAY
To Charlemont

V.—HOUSING.

An inquiry into the real cause of the housing problem in towns in any country will probably reveal the fact that it is due to a universal town-trending movement, which started some generations ago with the rise of centralised industries, assisted by the invention of railways, and by a natural desire on the part of people to congregate together for mutual gain and enlightenment. This is a movement which defeats the ingenuity of human laws to prevent, and its continuance can be taken as a fundamental fact. Three-fourths of the population of Scotland are now town-dwellers, as against one-fourth at the beginning of the nineteenth century. The figures are even more remarkable for Ireland, and in England and Wales the population of the towns had increased to the same proportion, in half a century. In Ireland young men and women, excepting for the waste of emigration, naturally gravitate towards the large centres of population, which, unfortunately, have few industries, and the result is casual employment as clerks, shop assistants, or domestics. The capital especially has suffered from an influx of this kind in recent years.

In the industrial districts of English cities, and in the dock districts of London and Liverpool housing is of a low standard, because in the latter places, as in Dublin, it is necessary to accommodate a large community of unskilled labour. As London grew eastwards with the development of her docks, the residential population that followed was entirely of the working class. The same thing occurred in Liverpool, where a large part of the working population lives just behind the line of docks forming a fringe which is broken only in the neighbourhood of the great landing stage by the commercial and civic centre of the city. There is everywhere a tendency for working class dwellings to accumulate in the industrial quarter of a town, and unless highly-developed means of transport can be provided, the majority of work-people will endeavour to live within easy reach of their places of employment. This is especially noticeable in Dublin.

Labour and housing problems go hand in hand, and they are both merely aspects of the greater industrial problem. The City Treasurer of Dublin, in a report to the Municipal Council in 1914, stated:—

> " In my opinion if you separate the poverty problem from the housing one, the matter is plain sailing. It is, however, in my judgment absolutely impossible to keep these two problems separate . . . "

The migration to Dublin of large numbers of agricultural labourers and others of unskilled capacity has inevitably resulted in congestion in the central portion of the city. Apart from all other city problems the housing of the working classes is of immense concern. A high proportion of the population of Dublin starts life without hope of having what makes life worth living—a decent home. It means that children in many thousands are born into environment which gives them no fighting chance of life. In consequence the infantile mortality is abnormal. (*See* Hygiene section.)

Housing in Dublin to-day is more than a " question," and more than a " problem "—it is a tragedy ! Its condition causes either a rapid or a slow death—rapid when the houses fall upon the tenants, as has happened already—slow when they remain standing dens of insanitation. The problem at present is really the outcrop of generations of vicissitude in the political, industrial, and social conditions of the people. A larger proportion of the population of Dublin is apparently of the poorest class, as compared with British cities. Dublin is much more a commercial than a manufacturing city, and consequently the unskilled labourers, so much required at all city ports, preponderate over the better paid artisans.

An endeavour may now be made in this report to deal with the subject under various important headings.

TRANSIT.

The principal factors which have contributed to the decay, from a residential standpoint, of the central areas are increased facilities for rapid travel, the introduction of tramways, railways, motor 'buses, and motor cars. This decay may be expected to increase to a greater extent in the future. In the case of the working classes it is as yet not applicable, as their wages and working hours are inconsistent with the daily traverse of long distances. With them the obtaining of the mid-day meal quickly and cheaply is an important consideration. Among this class, also, is a section which depends for employment of a casual nature, on remaining in close proximity to the commercial portion of the city. In these circumstances two considerations affecting this class must be examined :—(1) Are the central areas to be made suitable for the healthy occupation of large numbers of the working classes, thereby avoiding the expenditure of time and money in transit ; or (2) are these areas to be practically abandoned for this purpose, and housing provided outside in the same manner as that for the classes of greater earning capacity ?

Housing in the central areas has been considered by various housing reformers, and modern housing of the kind has proved successful in London and Liverpool. In the cities referred to it has taken the form of tenement block dwellings, four or five storeys high, well-planned, and with large open spaces. Frontages of good architectural treatment are adopted, so that property in the same street is not deteriorated in value. Examples of this principle are to be found in Dublin, but they lack some of the amenities referred to in the English examples. On this principle development costs of sites per dwelling may be kept low, commercial interests in the city areas are not deprived of patronage resulting from the presence of a large community and the worker is not removed from the amenities and entertainments of city life. It has been found that while this class is willing to pay for cheap methods of transit, it has a traditional, but regrettable, attachment to congested surroundings.

Housing in suburban areas has been favoured by all housing reformers in modern times, and numerous schemes have already materialised in these islands. Authorities in London and Liverpool, public and private, have built many ideal schemes, and such appear to be the mainspring of hope in the breasts of social reformers. It has changed the subject of housing from a hopeless study into a wonderful science. It is comparable to the glowing dawn after a threatening twilight

—a step towards the social millennium. In their report on the Town Planning Competition for Dublin the adjudicators state :—

> "A too popular misconception in Dublin, as elsewhere, is that in our crowded cities the working people cannot be economically housed in suburban areas; but this is in various places successfully done, in conjunction with improved facilities afforded by tramways and other means of locomotion, or by decentralisation of industry."

The practicable solution appears to be a combination of the central, on a limited scale, and the suburban methods, with the ultimate hope of eliminating the former. The heritage of Dublin as it is to-day in its physical state readily lends itself to a limitless development for suburban housing for all classes.

It would be easy and in fact necessary to develop existing routes so as to facilitate quick transit. Some of these routes are warped and contorted in their natural courses within the city area, and a remedy for these is an essential preliminary.

The present tramway system of Dublin is efficient to a limited extent, but could be greatly improved as a public service if new route connections were opened up. The circular non-stop system could then be adopted in preference to the present city terminus system, which is less convenient for passengers and causes traffic obstruction. It may be questioned whether the days of tramways are numbered. The provision of such method of locomotion for extensions to rising neighbourhoods is not likely to be adopted in the future. The establishment of motor 'bus services to outlying suburbs is already an accomplished fact to a limited extent in Dublin. The suburban railway service is of very limited usefulness, and it is doubtful if its development would be justified.

It is impracticable to give more than an approximate estimate of the distance of residence of manual workers in relation to their places of employment.

Taking five centres of employment, and the distance of each employee from his centre, the following results have been obtained :—

CENTRE.	Figure Available.	LIVING.		
		One Mile.	Two Miles.	Three Miles and over.
Dock District	12,263	9,962	1,851	450
O'Connell Street ..	4,031	2,758	639	636
Grafton Street ..	2,245	1,966	227	52
Henry Street	4,133	3,971	101	61
Grand Canal	2,603	2,316	231	56
	25,275	20,973	3,049	1,255

This table shows that out of 25,275 workers, as many as 20,973 live within a mile of their work.

THE TENEMENT SYSTEM.

A reference to the maps of this survey will help to an appreciation of the widespread nature of the tenement blot upon the city and its environs. The maps indicate the sites of these houses and their distribution.

The tenement house is regarded as the dominant factor in the whole problem as things are, and as they may continue to be.

From time to time large numbers of these houses have been officially condemned as " unfit for human habitation." If these premises served any useful purpose at all in their decrepit condition it would be as a warning to the citizens as to what will inevitably happen to all those houses still remaining. In addition to the evil of insanitation we have, according to official records, on the 1st November, 1924, families to the number of 251 living in houses condemned as " dangerous to public safety."

It may be seen also that these houses are not only clustered together in certain of the older districts, but the same fate is overtaking other streets and squares which were within living memory occupied by citizens of good social position. The development of the city during the past three or four decades discloses the steady migration of almost every citizen of substance from the central areas to the suburbs and which, incidentally, has had a serious effect upon rating values. Each such reduction in rateable value has its effect in increasing the poundage.

The report submitted by the Departmental Committee of the Local Government Board in 1914 criticised the Corporation for not applying certain powers stringently for the closing of tenement houses. The reply of the latter body was that if all the houses that were unfit at any one period since 1878 were closed, or even a considerable portion of them, there would be a house famine in the city among the working classes, and further that there was no city in these countries in which so many such houses had been compulsorily closed without compensation to their owners. This report also included a comparative table showing the number of persons per 1,000 of the population living in one-room tenements in Dublin, and some British cities, as follows: Dublin, 229; Glasgow, 132; London, 59; Edinburgh, 56; Liverpool, 23.

The sanitary department of the Corporation divides tenement property within the municipal area into three classes: first class—houses which appear to be structurally sound, but not necessarily in good repair; second class—houses so decayed or badly constructed as are soon likely to be unfit for human habitation; third class—houses unfit for human habitation, and incapable of being rendered fit without rebuilding. [These classes have no relation to those mentioned in the Survey made in 1919.] About the year 1917 there were in existence 5,921 of these tenement houses, sheltering 23,273 families, comprising 79,050 persons. For details regarding defective houses generally, compiled in 1919, see extracts from " Housing Needs," subjoined to this report.

The desirability of remodelling tenement houses out of municipal funds was suggested to the Corporation many years ago, and later in 1913, 1914, and 1916, and was recommended by the Housing Committee in 1917. In a memorandum subjoined to the report Councillor, now President, Cosgrave set out categorically a number of serious objections, and urged the Municipal Council not to adopt this course.

The remodelling of " first class " tenement houses is a matter which has been receiving

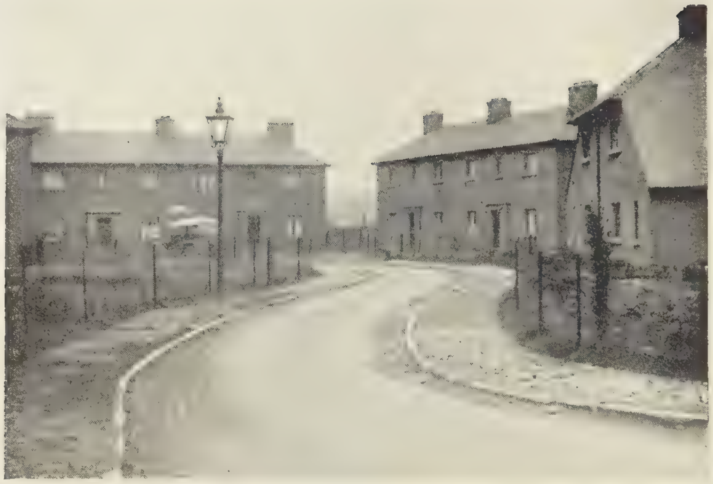


Photo by] [The " Independent " Newspapers, Ltd.

St. Barnabas' Gardens.

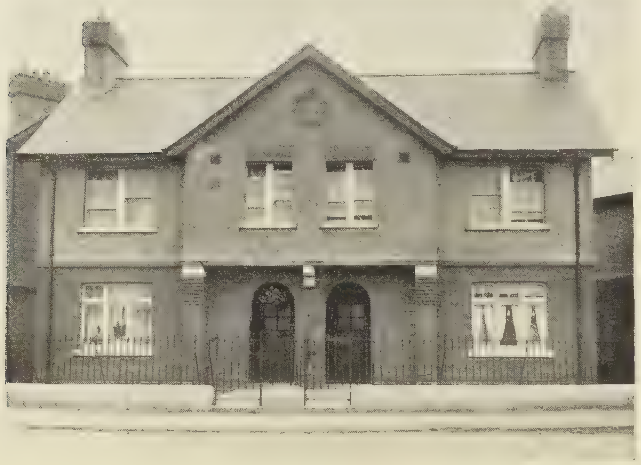


Photo by] [" The Irish Times."

Fairbrother's Fields.

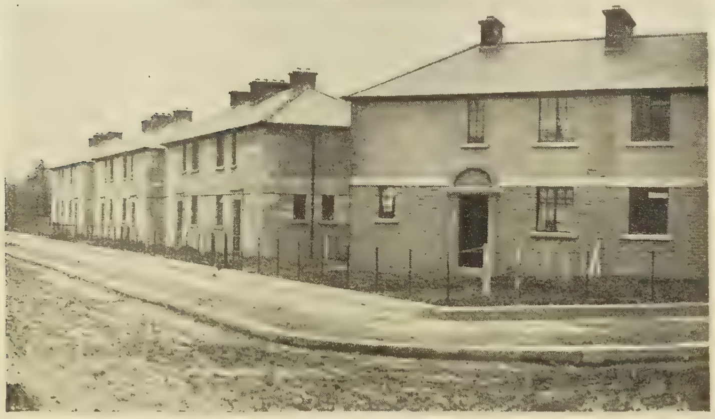


Photo by] [" The Irish Times."

Rathmines.

HOUSING SCHEMES.

a good deal of attention. It may be assumed that these are in fairly good neighbourhoods. The minimum tenement provision should not be less than two rooms, with sufficient cooking and individual sanitary accommodation. It seems that the plans of existing houses follow closely one or other of two types. The conversion of one house into six dwellings was estimated in 1914 to cost £300, but this appears too low, even for the year stated, and the same work would now cost at least £700. An example of this in the present year is to be found in Marlborough Street, where a structurally sound house is being remodelled for the occupation of ten families at a cost of £800, with the approval of the Department of Local Government and Public Health.

It has been suggested that no large insanitary area which has been cleared should again be built upon, as the central area of the city is deficient in open spaces.

In the adjoining urban districts the tenements are confined to small congested areas. In Rathmines there are a large number unrecorded. In Pembroke there are 637 one-room tenements, and in Blackrock 140 persons live in tenements. There are some in Dun Laoghaire unrecorded and a few in Dalkey and Killiney.

The evil of tenements has been much debated in Dublin, but speakers on the slum evil are inclined to devote nine-tenths of their words to the horrors, and only one-tenth to constructive suggestions.

LEGISLATION.

Among the Acts of the British Parliament which may be considered to deal with housing from one standpoint or another, are the following :—

The Housing of the Working Classes Acts (Ireland), 1890-1921 ;
The Dublin Improvement Acts, 1849-1890 ;
The Public Health (Ireland) Acts, 1878-1919 ;
The Labourers (Ireland) Acts, 1883-1919 ;
The Local Government Act, 1898 ;
The Small Dwellings Acquisition Acts, 1899 and 1919 ;
The Housing (Additional Powers) Acts, 1919-21 ;

And of Saorstát Éireann :—

The Housing (Building Facilities) Act, 1924 ;
The Housing (Building Facilities) Amendment Act, 1924.

A rehearsal of the special provisions of all these Acts would not be within the scope of this report, but a brief reference may be allotted to certain contingencies which have arisen out of their administration in part or in whole, as well as setting down some record of certain suggestions which have been made for their amendment.

The first-mentioned Acts are the ones most availed of by local authorities contemplating the improvement of housing conditions. Parts I., II., and III. of these Acts are the operative ones. It has been stated that the formalities to be observed are slow and cumbersome. It has been contended that local authorities do not make sufficient use of the powers given under these Acts; that the local authority might be invested with power to prohibit the conversion of a house into a tenement if it could be shown that such conversion was detrimental to surrounding property, or in any event unless such structural alterations were carried out as to render it suitable for increased accommodation. Further, that the local authority might have power to demolish and clear the sites of closed houses without compensation to owners who were not willing to rebuild at once on the same site. Under the provisions and regulations framed under these Acts, local authorities have complained of excessive awards as compensation made by arbitrators appointed by the Government. Under the Act of 1890 (Section 59) powers are given to borrow money for the purchase and repair of existing tenement houses, but apparently owing to the age and condition of the greater part of such property in the city, and the high cost of adequate repairs, the Corporation has not seen fit to avail of these powers.

It was urged by local authorities in 1913 that they should obtain power to have the repayment of loans made either on the annuity or instalment principle : that payment on the annuity principle would mean a considerable reduction for twenty years after the scheme was adopted ; that power should be given to confiscate derelict sites, and that powers be given to borrow money at the same rate of interest as under the Labourers Acts.

Certain of the foregoing suggestions have been exhaustively examined and reported on by such recognised authorities as Mr. Ignatius Rice, Law Agent of the Dublin Corporation, and Mr. Edward McHugh, Solicitor, Taxing Officer under the Labourers (Ireland) Acts. Their views will be found together with those of Dr. P. C. Cowan, D.Sc., in his admirable report on Dublin Housing published in 1918. A valuable book of reference is the Departmental Committee's Report on the Housing Conditions of the Working Classes in the city of Dublin in 1914.

The Dublin Improvement Acts give powers, cumbersome in procedure, with regard to dangerous buildings affecting the public safety ; registration of tenement houses, etc. The housing shortage in recent years, especially among the uneconomic classes, renders stringent operations under these Acts impossible in practice. In many cases magistrates are loth to make orders for the closing of houses with resultant evictions, although the houses are certified to be dangerous to public safety. Two applications are also necessary, one for closing, and later one for demolishing. The owners of such houses, with professional assistance, obstruct the local authorities to render the available powers inoperative.

The Public Health Acts make provisions, *inter alia*, regarding new buildings and streets ; proper sanitary accommodation and water supply in existing buildings ; regulation of cellar dwellings and lodging-houses, and over-crowding. Most of the building bye-laws framed by local authorities under these Acts are now obsolete in many respects.

The Local Government Act, 1898, contains provisions with regard to the operations of local authorities, and makes the Local Government Board (now the Ministry of Local Government and Public Health) the controlling authority in regard to all matters dealing with housing and town improvements.

The Small Dwellings (Acquisition) Acts empower local authorities to advance money to enable persons to acquire the ownership of small houses in which they intend to reside or actually do reside. Not more than nine-tenths of the market value of the house may be advanced. The market value of the house must not exceed £800. The local authority may, with the sanction of the Ministry of Local Government and Public Health, borrow money from the Board of Public Works, or in the open market, and grant loans in various periods of years not exceeding fifty at a rate of interest fixed by Order made from time to time by the Minister for Local Government

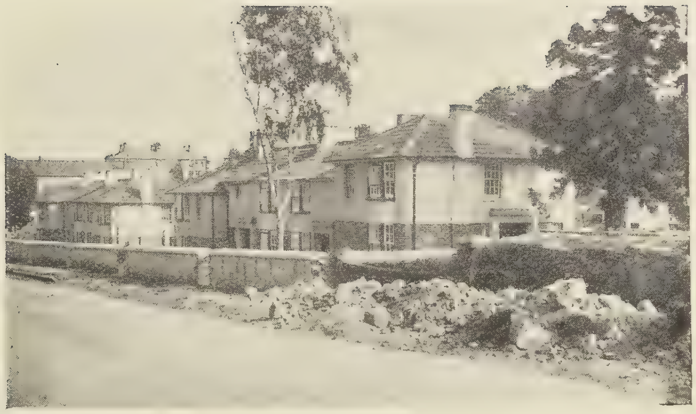


Photo by] *Blackrock.* [" The Irish Times."

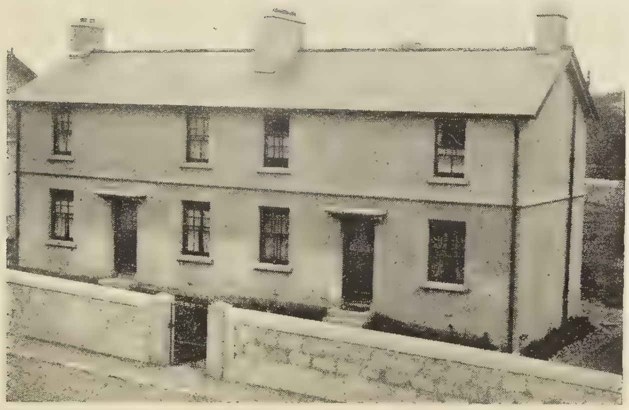
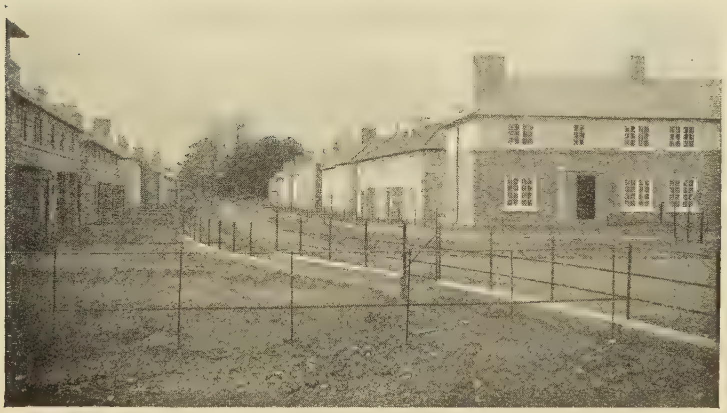


Photo by] *Dalkey.* [" The Irish Times."



By courtesy of] *Marino.* [F. G. Hicks, Esq., F.R.I.A.I., F.R.I.B.A.

HOUSING SCHEMES.

and Public Health, with the approval of the Minister for Finance. These Acts have proved their great usefulness by the fact that the Dublin Corporation has lent the large sum of £80,785, to facilitate their operations. It should be noted that these are purchasing and not building Acts. They may have been availed of by the middle classes to a considerable extent in Dublin, at a time when the operations of the speculative builder were widespread, and the cost of building low.

The Housing (Additional Powers) Acts, 1919 and 1921, were intended to encourage the building of houses by private owners on a large scale following the years of the War, and a sum of £15,000,000 was earmarked by the British Treasury for free grants for the United Kingdom. The Act was extended after the original period of twelve months had lapsed. Within the municipal area of Dublin only seventy houses were erected, at a total subsidy value of £16,276. The provisions of this Act were liberal, and would, no doubt, have been availed of to a much greater extent but for the political situation and unsettled conditions of the building trade. One of the provisions of this Act made it illegal to convert certain residential property for commercial purposes without the sanction of the local authority. The Corporation of Dublin uniformly withheld this sanction. The financial provisions of this Act lapsed in August, 1921.

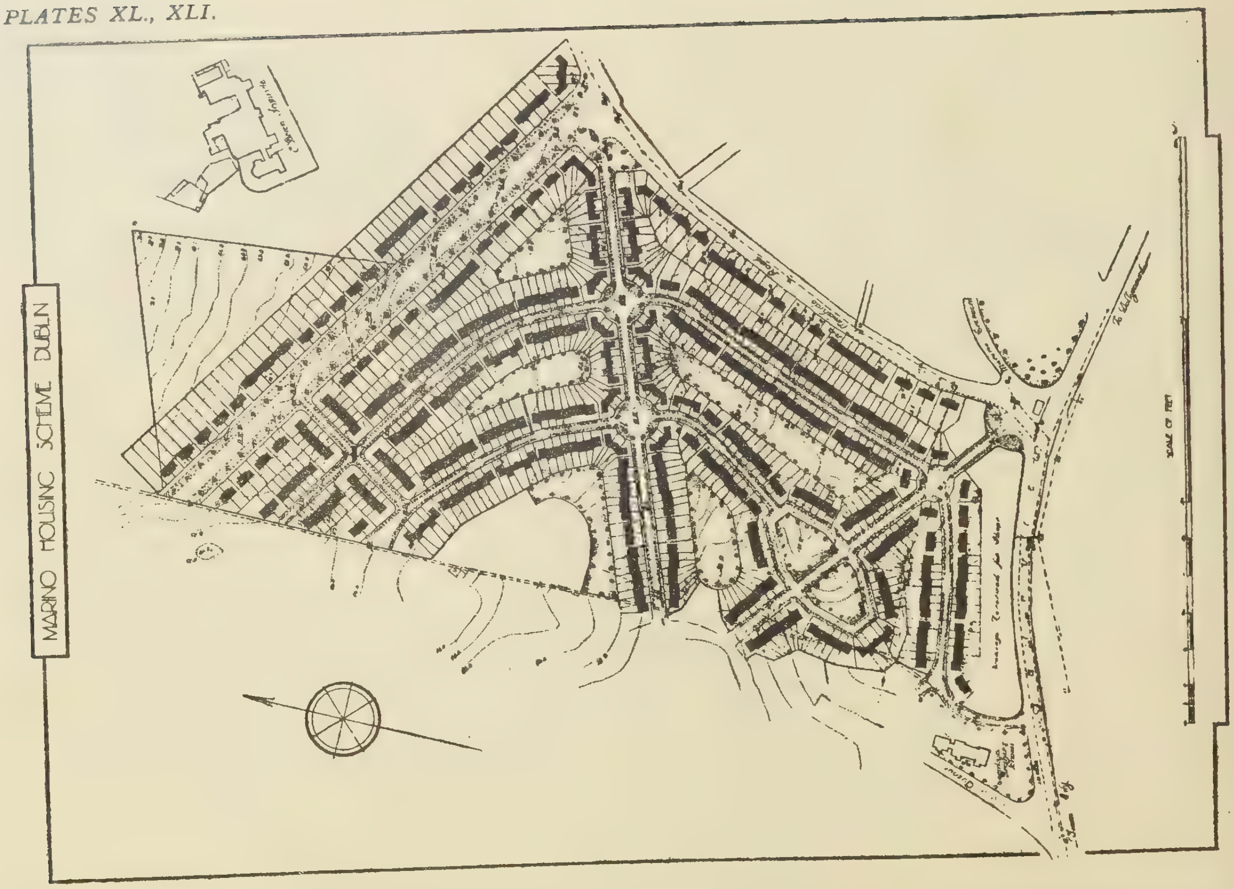
The Housing (Building Facilities) Act makes somewhat similar provision as the last-mentioned Acts, but the grants, owing to reduced building costs and on other grounds, are on a lower scale, and the size of the proposed houses restricted to 1,000 square feet of floor area. There are limits prescribed with regard to sale price and rentals up to June of next year; partial remission by the local authority of the local rates for nineteen years is one of the many facilities offered. The high cost of building still operates against the provision of houses on a large scale in urban areas.

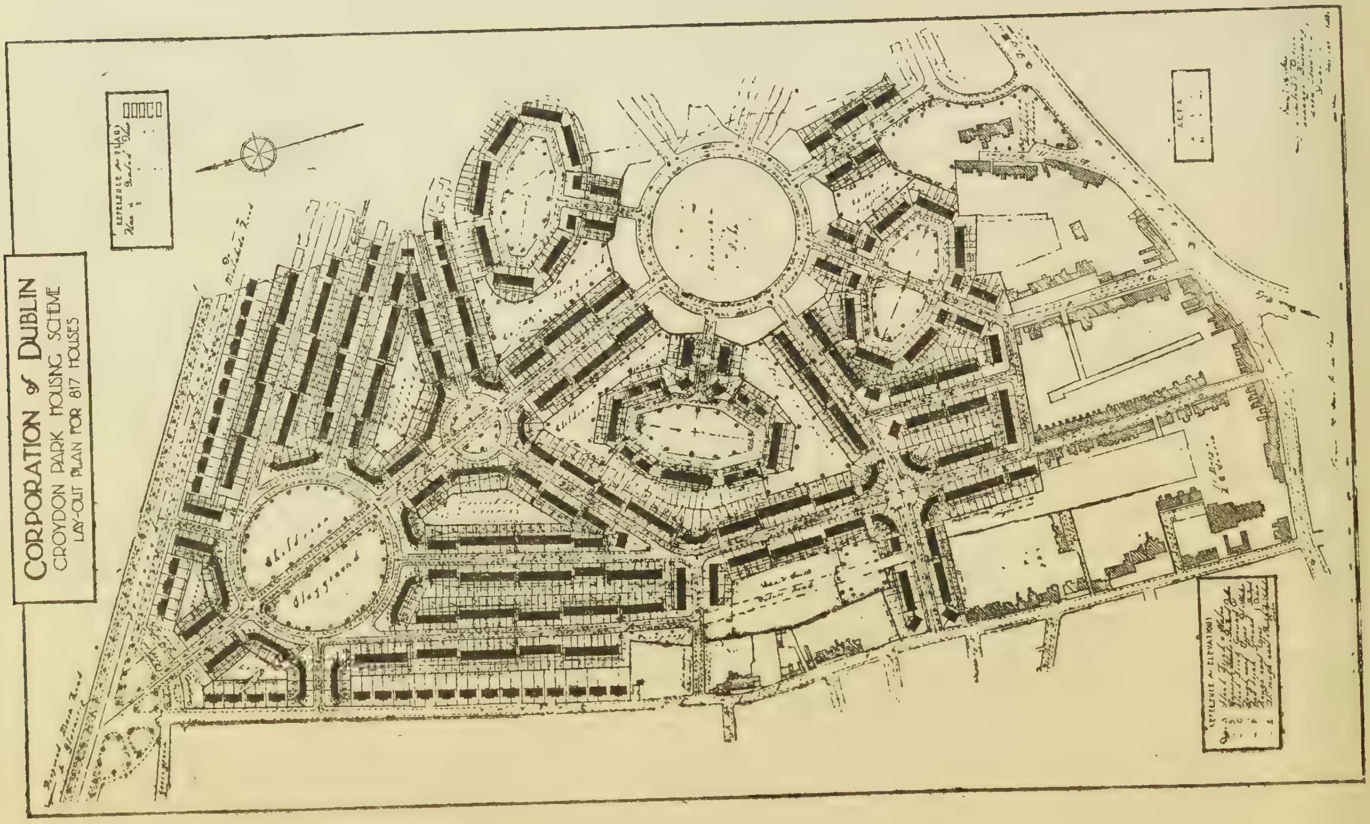
Under the Housing (Building Facilities) (Amendment) Act, 1924, which became law on the 18th December, 1924, the State Grants available under the Act for private persons have been extended to local authorities operating under the Housing of the Working Classes (Ireland) Acts. In anticipation of this legislation the Dublin Borough Commissioners acquired Keogh Barracks, formerly Richmond Barracks, and are at present engaged on the reconstruction of portion of the barrack buildings into flats, where it will be possible to house over 200 families. The Commissioners have recently accepted a tender for the erection of a limited number of temporary houses on the adjoining land, and it is understood that schemes are being prepared by them for :—

(*a*) the erection of about 220 new houses on the lands attached to the barracks;
(*b*) the extension of operations on the Marino and Croydon Park area.

To date between 400 and 450 houses are being provided, or about to be begun in municipal areas under this Act. Of these about 250 are in Dublin city. In Dublin county outside the city area proposals for about 180 houses are approved, and in most cases the work is well under weigh.

The most recent activities of local authorities under the Housing of the Working Classes (Ireland) Acts were financed out of the £1,000,000 Housing Grant made available by the Provisional Government in 1922. Under this grant schemes for the provision of over 2,000 houses were undertaken by municipal authorities, and it is understood that in most cases the schemes have now been satisfactorily completed. In Dublin the schemes for the provision of nearly 1,000 houses under this grant are approaching completion.


MARINO HOUSING SCHEME DUBLIN
SCALE OF FEET


CORPORATION of DUBLIN
CROYDON PARK HOUSING SCHEME
LAY-OUT PLAN FOR 817 HOUSES
Childrens Playground

TOWN PLANNING.

There is no Town Planning Act for the Irish Free State. In his evidence before the Departmental Committee on Housing in Dublin in 1913, Professor Geddes, of Edinburgh, made the following statements :—

> " I submit it would be of great service to the inquiry were a survey carried out on the lines of the Right Hon. Charles Booth's survey of London."

Concurrently with that could be considered the improvements and abbreviations suggested by later surveys, as by Councillor Marr, for Manchester ; by Miss Walker, for Dundee ; and especially by Mr. Rowntree, for York :—

> " I think the Corporation here has imitated the worst example of manufacturing towns, and should follow the example of the Continental towns. I desire to make further criticisms of piecemeal improvements. I have every sympathy with the Corporation which feels that dangerous tenements need attention, but putting buildings up in a permanent way without town-planning is preparing slums for the future. The preparation of a town plan is at once practical and economical."

In their report accompanying the plans submitted in the Dublin Competition, Messrs. Kaye-Parry and Ross, of Dublin, state :—

> " No town-planning scheme for Dublin is worthy of consideration which does not deal primarily with the vexed question of the housing of the working classes."

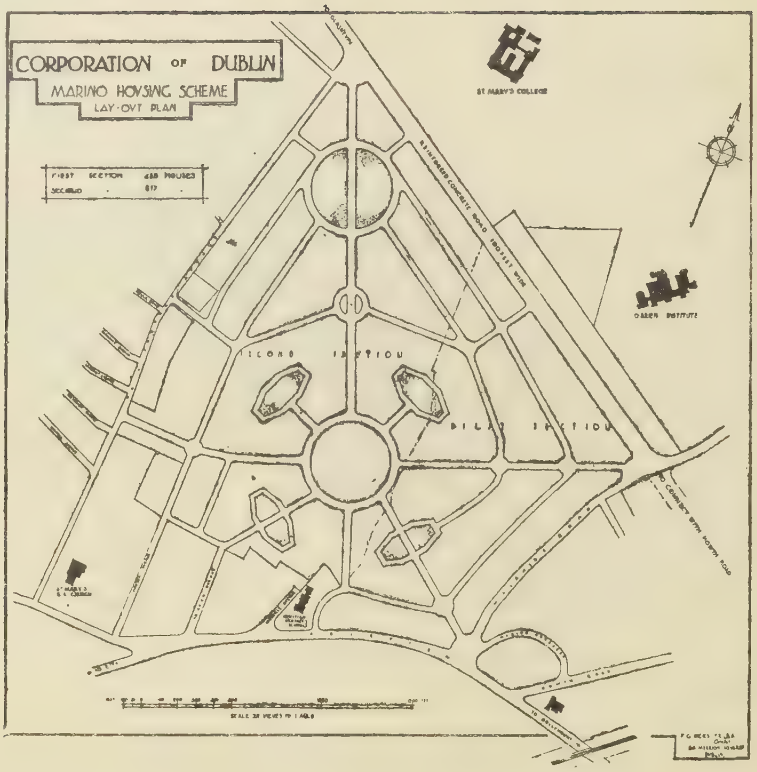
In their volume *Dublin of the Future*, published in 1922, Messrs. Abercrombie, Kelly and Kelly, of Liverpool, state :—

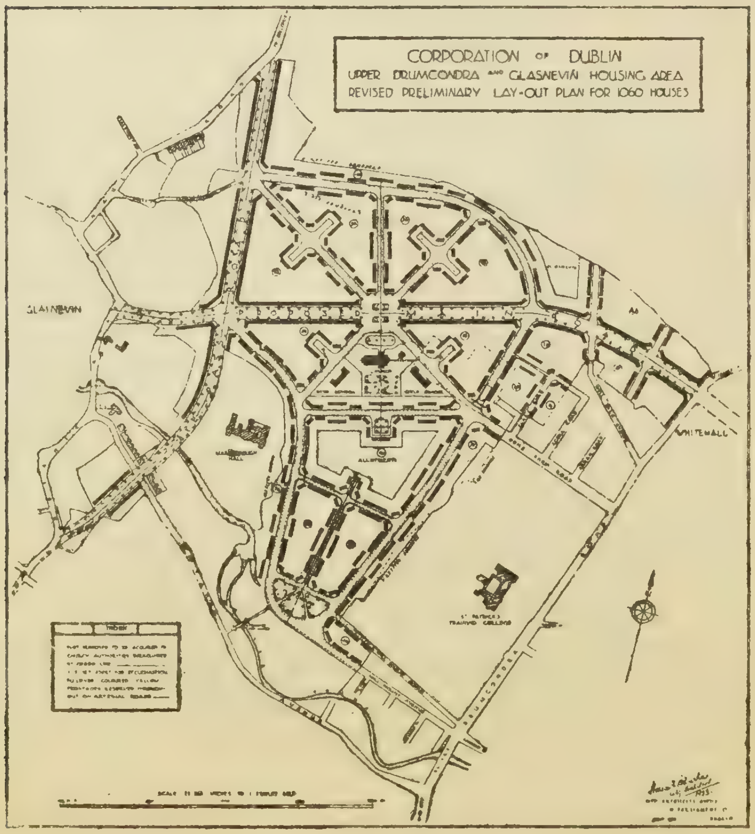
> " The re-housing of over 60,000 persons is the immediate need, and unless this is undertaken in conjunction with radical town-planning the latter state of Dublin will be worse than the present." " The Town Planning Act of 1909 has already wrought great changes in the development of land in England, and it is of the utmost importance that some legislation on similar lines should be enacted for Dublin." " The outline of such a Housing and Town Planning Act is suggested on a different system to that prevailing in England at present, as the relative conditions are not the same."

In 1916 the Assistant City Architect of Dublin in an address on Town Housing stated :—

> " Bad scheme planning, whether on city or suburban areas, is really false economy and short-sighted public policy. In many a fine city, such as Dublin, the setting of its buildings and the layout of its public squares often contributes to a grand and dignified appearance much more than does the excellence of the buildings themselves. . . . . Whether it be the case of a metropolis or a wayside town, it is the obvious duty of the local authority to promote the right system of development."

In the conditions of the Dublin Town Planning Competition it was provided that within the city area the density for housing districts should not exceed 100 persons per acre, and in the suburbs 60 persons per acre. If we take the accepted average of five persons per dwelling this


CORPORATION OF DUBLIN
MARINO HOUSING SCHEME
LAY-OUT PLAN
FIRST SECTION 428 HOUSES
SECOND " 817 "
ST MARY'S COLLEGE
REINFORCED CONCRETE ROAD 100 FEET WIDE
O'BRIEN INSTITUTE
SECOND SECTION
FIRST SECTION
TO CONNECT WITH HOWTH ROAD
ST MARY'S R.C. CHURCH
SCALE 38 METRES TO 1 MILE


CORPORATION OF DUBLIN
UPPER DRUMCONDRA AND GLASNEVIN HOUSING AREA
REVISED PRELIMINARY LAY-OUT PLAN FOR 1060 HOUSES
GLASNEVIN
WHITEHALL
MARLBOROUGH HALL
ALLOTMENTS
ST PATRICK'S TRAINING COLLEGE
DRUMCONDRA
INDEX

would give 20 houses or their equivalent per acre in the city, and 12 houses per acre in the suburbs. The total area of land, therefore, required on this basis to accommodate 22,000 houses —the probable requirement in 1924—would be very large.

As regards provision for open spaces and playgrounds, town-planning experts have agreed that not less than 10 per cent. of the gross housing area should be reserved for such purposes, and in city areas more would be desirable.

The Parliamentary Land Enquiry Committee (England) in their Report set out, *inter alia*, the following conclusions :—

> "(1) That as a result of a complete survey of their district a local authority shall prepare a scheme for the provision of the necessary housing accommodation for the population likely to be permanently resident within this area. (2) That where cheap sites are not available, transit schemes should be promoted, and undeveloped areas town-planned, and congested areas re-planned."

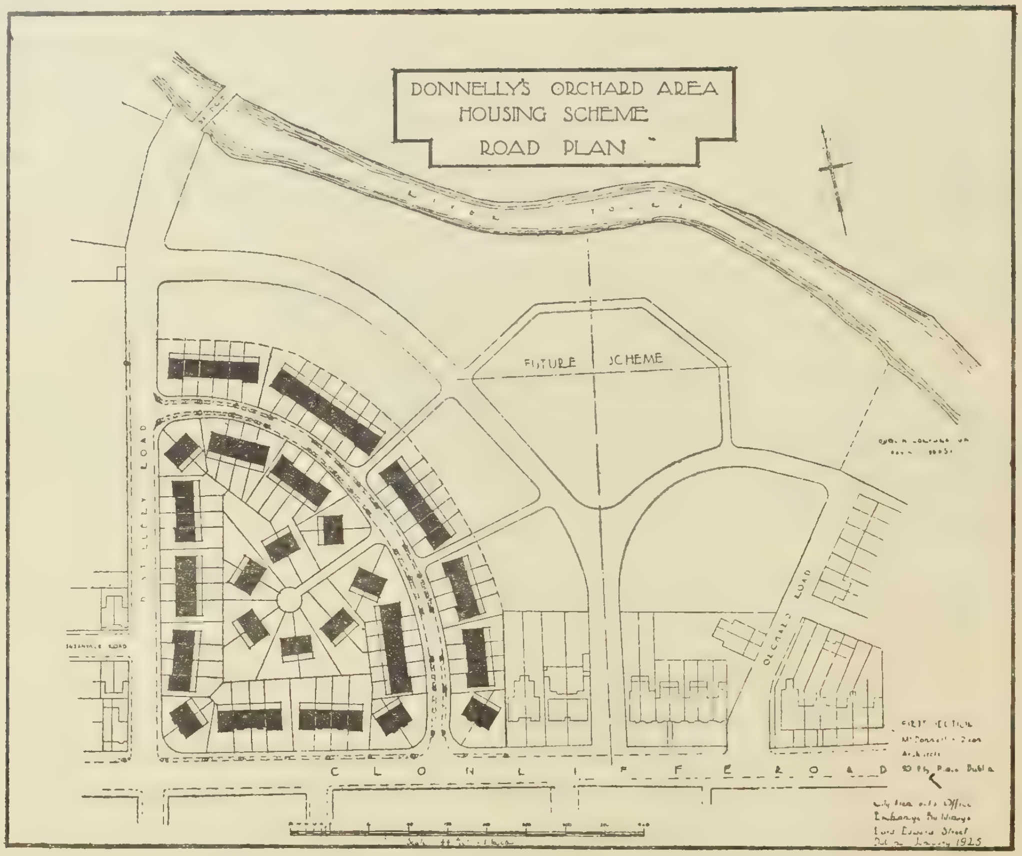
In 1917 Mr. J. Vincent Brady issued a pamphlet on practical slum reform in Dublin in which it is stated in a foreword :—

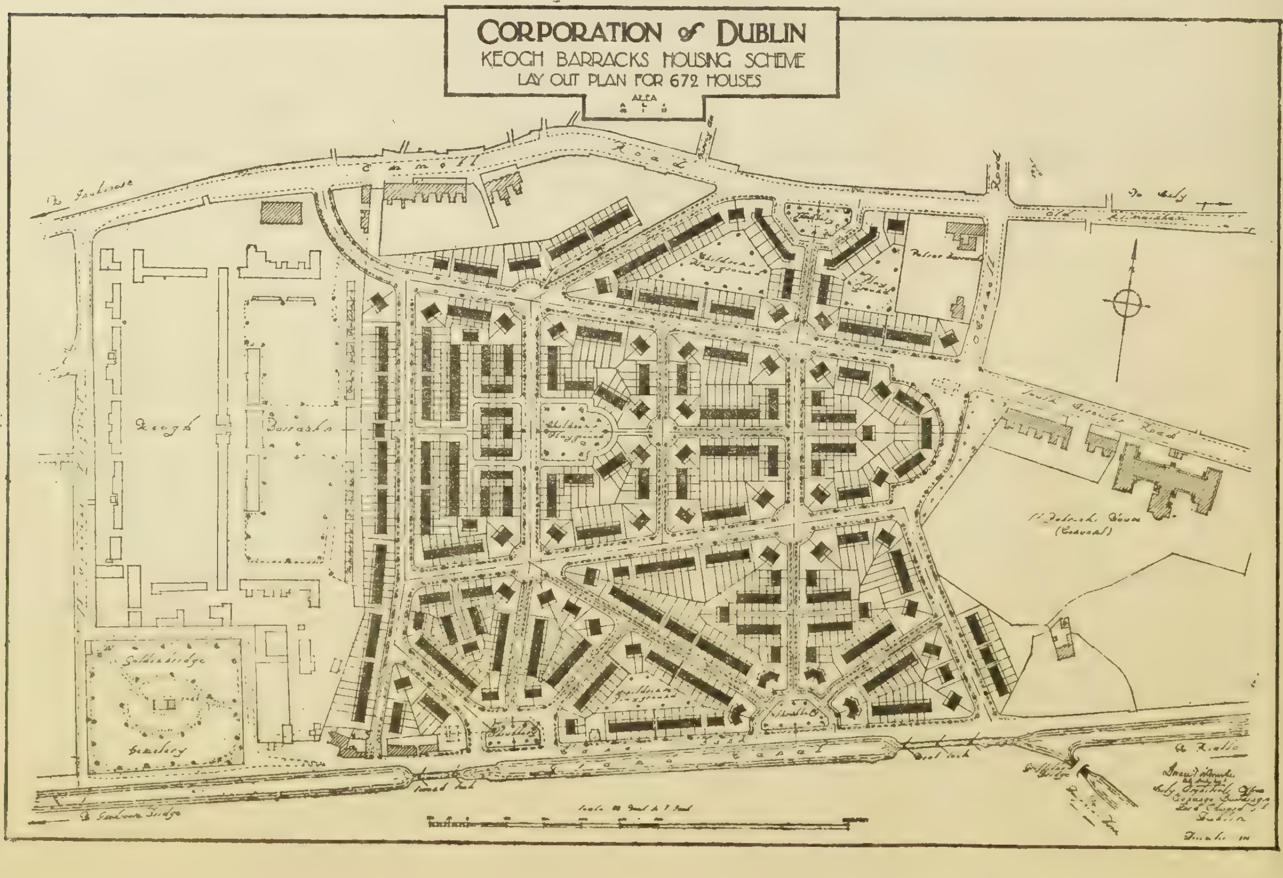
> "It may be objected that town-planning is too expensive a mode of procedure. The answer is that while town-planning primarily aims at conservation of life and the elimination of waste it is none the less as a money-saving proposition that it has gained popularity in other countries. An efficient system of city planning, amended building bye-laws, increased land purchased by the urban authority on the outskirts of the city, and the encouragement of the formation of co-partnership building societies with Government loans at low rates is the fundamental basis of reform."

The impartial investigator of the Dublin housing problem must be forced to the conclusion that had the municipal area been extended periodically in accordance with natural expansion, especially southwards, the expenditure involved would have been more equitably distributed, and the difficulty of finding suitable sites lessened.

SUBURBAN SITE AREAS.

One of the causes rendering it undesirable to build housing schemes for the working classes within city areas is the high cost of land acquisition. A specific example of the high cost of city sites is the Bride's Alley area, for which the Corporation had to pay at the rate of £10,000 per acre. In mitigation of the Corporation's responsibility for such payment, it may be mentioned that the purchase sum for one licensed premises alone was £4,000, this figure being awarded by the arbitrator appointed by the Local Government Board. For city sites alone it is estimated that the Corporation has already expended £100,000 ! It was estimated by the Housing Committee of the Corporation in 1917 that to provide space for 2,000 houses in central areas with a density of twenty-five houses to the acre, at least 80 acres would be required. The estimated cost of site acquisition, including compensation and legal expenses, was averaged at £3,074 per acre,


DONNELLY'S ORCHARD AREA
HOUSING SCHEME
ROAD PLAN
FUTURE SCHEME
DISTILLERY ROAD
SUSANVILLE ROAD
ORCHARD ROAD
CLONLIFFE ROAD
FIRST SECTION
Architects
City Architect's Office
Exchange Buildings
Lord Edward Street
January 1925


CORPORATION of DUBLIN
KEOGH BARRACKS HOUSING SCHEME
LAY OUT PLAN FOR 672 HOUSES
AREA
Emmet Road
Old Kilmainham
South Circular Road
Keogh Barracks
Children's Playground
Goldenbridge Cemetery
(Convent)
Griffith Bridge
To Rialto
Road

or a total of £245,920! In British cities this difficulty also arises, and in Holloway the London County Council has had to pay £8,000 per acre. Another of the causes urged against central housing development is the inevitable surroundings of the dwelling, the public-house and the street corner, and the paved thoroughfare as a playground for the children. Contrast these surroundings with those obtained in suburban areas, where the father has a little plot for gardening, the mother a space for drying clothes, and the children in the garden are immune from traffic dangers. The inexorable conclusion is that the first environment is a slum, the second a home.

The artisan of to-day desires to bring up his family in a fresher atmosphere, and amid more attractive surroundings than are to be found in the heart of a city. Nor is he necessarily thereby taken further from his work, for the factories are springing up on sites where land is cheaper. There are several instances of this in recent years in Dublin. Town-planning would protect these areas from ever reaching slum conditions.

The successful competitors in the Aberdeen Town Planning Competition for Dublin selected three suburban areas for housing development, viz., Crumlin, Cabra, and Drumcondra, and suggested that a total of nearly 1,000 acres would be required, in so far as the requirements were then known. None of these areas has any relation to the existing municipal boundary. To emphasise their recommendation in this respect, they set out the following points, which are worthy of record here:—

(1) The prohibitive cost of land in the central area, principally in compensation to slum owners;

(2) The extra cost of dealing with small areas as regards the building of the houses, sewering, and incidental charges;

(3) That it would only be practicable to build four or five-storied tenements to ensure a moderate rental, but not suitable for the better class workman;

(4) The possibility that the derelict land is not being put to its best use with regard to its location;

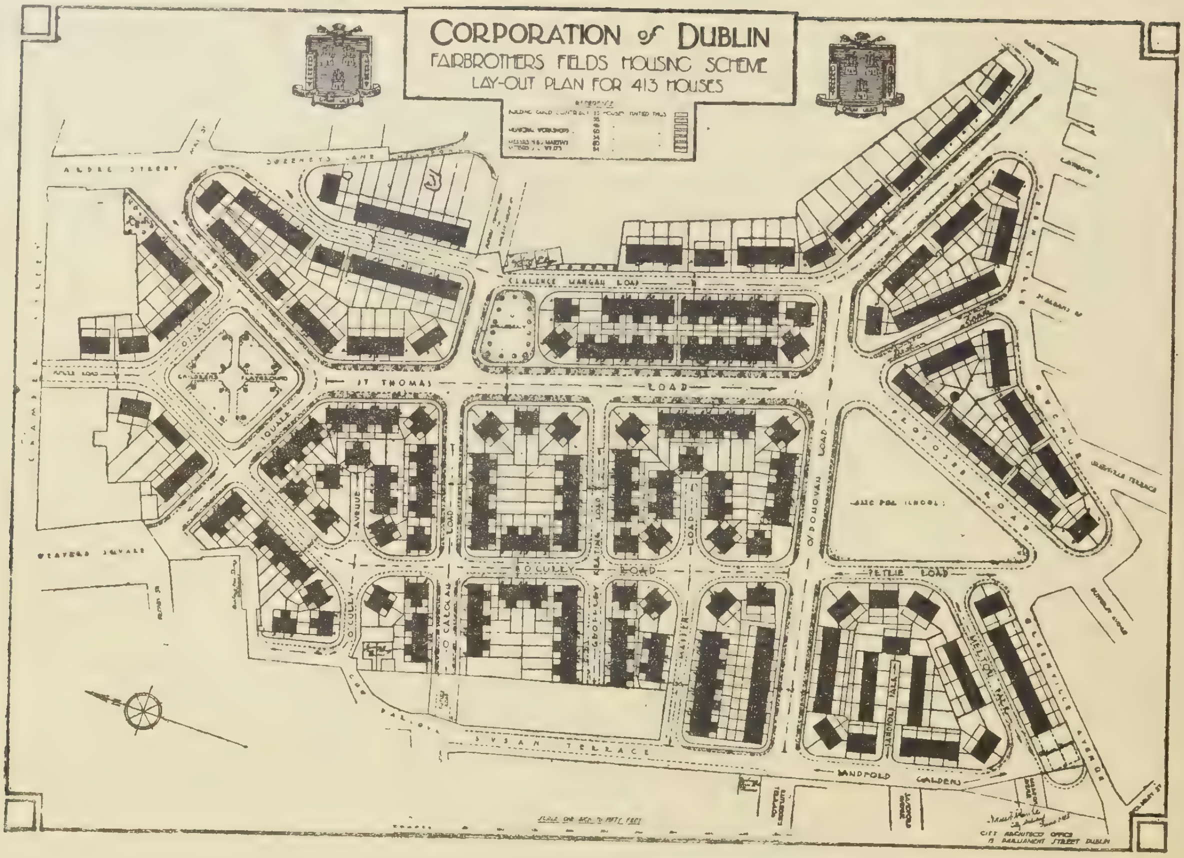
(5) That the future generation must be reared under better conditions than city tenement dwellings can offer.

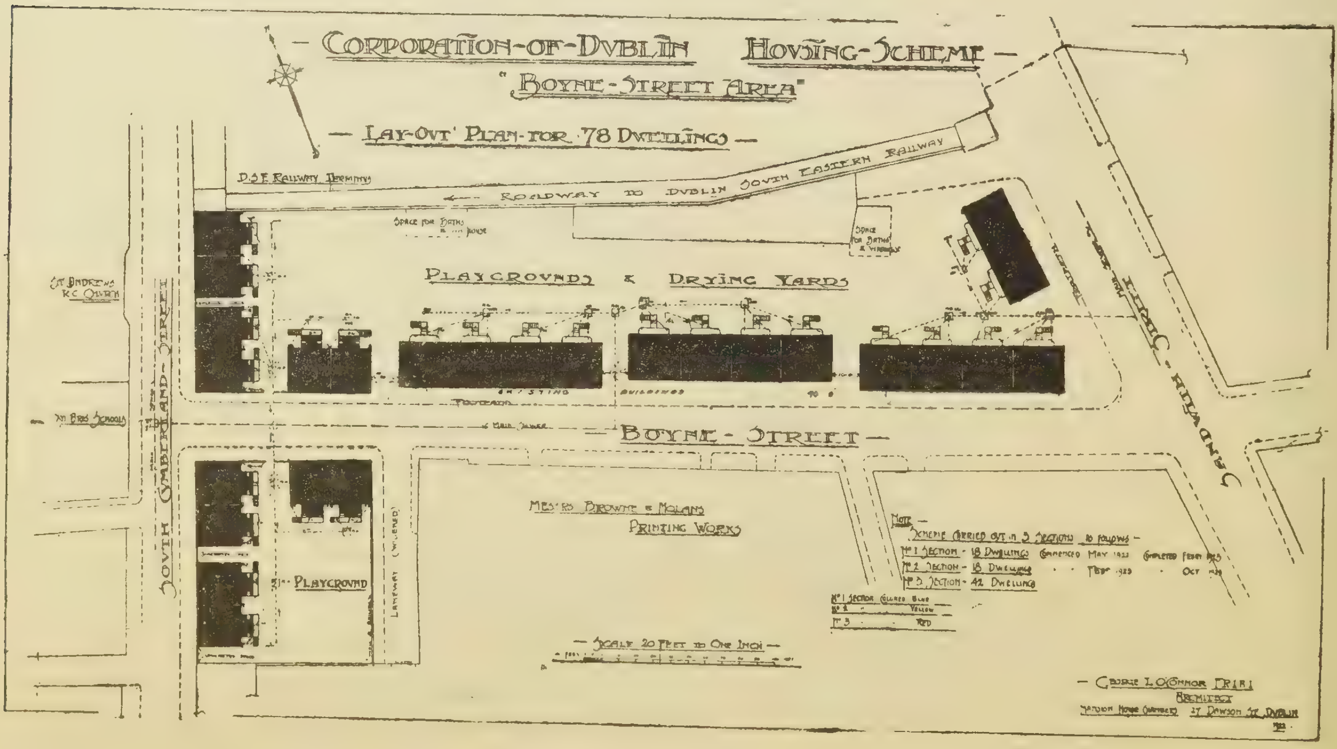
It was proposed to lay out these areas on town-planning lines as independent housing, however good in itself, cannot be said to be really well conceived without that essential.

The extent and location of new housing areas proposed for future development by the local authorities may be observed on the maps accompanying this survey. These embrace some city, but mostly suburban areas.

The suburban or semi-suburban sites selected by the Corporation for present or future development are located as follows:—

	ACRES		ACRES
Friends' Fields, Ballybough	5	Croydon Park, Fairview	89
Infirmary Road	13	Drumcondra and Glasnevin	156
North Lotts (since abandoned)	15	Cabra	96
Keogh Barracks (Inchicore)	48	Clonturk (City Estate)	13
Marino (almost completed)	50	Donnelly's Orchard (part completed)	11


CORPORATION of DUBLIN
FAIRBROTHERS FIELDS HOUSING SCHEME
LAY-OUT PLAN FOR 413 HOUSES
REFERENCE
ST THOMAS ROAD
CLARENCE MANGAN ROAD
O'CURLEY ROAD
O'DONOVAN ROAD
PETRIE ROAD
SQUARE
AVENUE
WEAVERS SQUARE
SANDFORD GARDENS
CITY ARCHITECTS OFFICE 17 PARLIAMENT STREET DUBLIN


CORPORATION-OF-DUBLIN HOUSING-SCHEME
"BOYNE-STREET AREA"
LAY-OUT' PLAN-FOR 78 DWELLINGS
D.S.E. RAILWAY TERMINUS
ROADWAY TO DUBLIN SOUTH EASTERN RAILWAY
SPACE FOR BATHS
PLAYGROUNDS & DRYING YARDS
EXISTING BUILDINGS
BOYNE-STREET
SOUTH CUMBERLAND-STREET
ST ANDREWS R.C. CHURCH
SANDWITH-STREET
MESSRS BROWNE & NOLANS PRINTING WORKS
PLAYGROUND
LANEWAY
Note –
Scheme carried out in 3 Sections as follows –
No 1 Section - 18 Dwellings Commenced May 1922 Completed Feby 1923
No 2 Section - 18 Dwellings · · Feby 1923 · Oct 1923
No 3 Section - 42 Dwellings
No 1 Section Coloured Blue
No 2 · Yellow
No 3 · · Red
SCALE 20 FEET TO ONE INCH
George L. O'Connor F.R.I.A.I.
Architect
Nation House (Chambers) 27 Dawson St. Dublin

Other sites of similar character which have been suggested in connection with city housing are as follows :—

	ACRES		ACRES
Griffith Bridge, Grand Canal	17	Botanic Avenue	33
Habertin Bridge to Dolphin's Barn Bridge	16	Richmond Road	4
South Circular Road and Emmet Road ..	37	Seventh Lock, Royal Canal	3
Old Kilmainham, University Club ..	60	Old Cabra Road	38
Rialto Park, south of Grand Canal ..	7	Arbour Hill	26
Vauxhall Avenue, north of Cork Street ..	7	Fassaugh Lane (north of)	35
South Circular Road at Rehoboth Factory	30	Cabra Road (south of)	15
Inchicore House Vicinity	61	Cabra Road (north of)	20
East Wall	57		

NOTE.—Some of these areas are already included in the previous list.

Total acreage of these suggested areas—493 acres.

The virgin sites suggested by the urban district councils for future development are in Rathmines, at Kimmage and Milltown, about 50 acres; in Blackrock about the same acreage; in Pembroke and Dun Laoghaire none are yet recorded, and in Howth, Dalkey and Killiney, where large areas are available, none are yet suggested for development. No information could be obtained of the probable cost of acquisition per acre. The urban districts do not provide employment to any considerable extent for the working classes, and therefore, do not contain a population of that kind, while their comparative remoteness from the municipal area is also a factor contributing to the latter circumstance.

EXISTING HOUSING PROVISIONS.

Housing operations in the area covered by the civic survey under the various Housing Acts will be found indicated in the subjoined tables, and on the housing maps of this Survey.

From these tables the following figures have been compiled :—

	Number of Dwellings
*Erected by Local Authorities under the various Housing Acts ..	7,724
Erected under Schemes administered directly by Government	465
*Erected under Government Grants to Private Persons ..	203
Erected under Housing Associations, Company and Private Schemes	6,488
TOTAL	14,880

An extract from a Survey of Housing Needs formulated by the Local Government Board in 1919 is also appended, but this cannot now be considered quite up-to-date.

* Excludes operations under Building Facilities Acts.

BUILDING COSTS AND LABOUR.

One of the greatest difficulties of the housing problem is the high cost of building brought about by increased wages, increased cost of building material, and reduction in the output of labour.

An analysis of this difficulty resolves itself into three components—money, men and materials. The difficulty arises from the fact that dwellings of the minimum hygienic standard cannot be provided without financial assistance at a rent within the reach of a large section of the working classes. It has been already proved that the granting of liberal widespread assistance had its effect in increasing demand to a point at which inflation in prices and wages ensued. Without a desire to discourage new building materials it has been found that experience is overwhelmingly in favour of the materials in common use ten years ago. The man-power of the building industry was seriously depleted during the War, and that following a depression in the trade before the War, there has been a breakdown of the apprenticeship system of recruiting new labour. Little can be accomplished to render less costly the price of building until cheap and efficient transport is secured. For the future we must regard the housing of the worker as a permanent task, and not merely a passing problem.

In connection with the cost of building it may be stated that roughly all items are made up of labour, 45 per cent. ; material, 50 per cent., and profit, 5 per cent. A close investigation would probably show that including the labour on manufactured material used on the works, 80 per cent. of the total cost of building may be ascribed to labour.

The subjoined table shows the prices of certain materials, and the rates of wages in Dublin in 1900, 1910, 1920, 1924.

MATERIALS (on Site).

Year.	Bricks. Per Thousand.	Cement. Per Ton.	Lime. Per Hhd.	Welsh Slates. (20″ x 10″) Per Thousand	White Deal. Per Standard.	Red Deal. Per Standard	Flooring. Per Square.
	£ s. d.	£ s. d.	s. d.	£ s. d.	£	£	£ s. d.
1900	1 18 0	2 2 0	0 8	8 10 0	15	25	0 10 0
1910	1 12 0	1 10 0	0 9	9 10 0	15	21	0 11 0
1920	7 0 0	6 14 0	3 0	48 0 0	80	95	2 8 0
1924	4 5 0	2 15 0	2 9	40 0 0	40	60	1 3 0

WAGES (Summer Rates, per Hour).

Year.	Bricklayers.	Carpenters.	Slaters.	Plasterers.	Painters.	Labourers.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1900	0 8½	0 8	0 8½	0 8	0 8	0 4½
1910	0 8½	0 8	0 8½	0 8	0 8	0 4½
1920	2 2	2 1½	2 1½	2 1½	2 1	1 7
1924	1 10½	1 10	1 10	1 10	1 9½	1 4

The labour side of building suffers from disadvantages as compared with other trades :—

(1) It is practically exposed to the trade cycle of unemployment as people will not build in times of depression.

(2) It depends for its progress and activity upon the season of the year.

(3) It suffered abnormal depletion during the War, and younger men are not anxious to enter a precarious trade.

It has been computed that, before the War, in England not more than one man in eight in the trade was employed in cottage-building, and the trade has now dwindled. Out of this latter number two men are required in the trade for building work other than housing. The foregoing facts illustrate how difficult it is to reconcile a building programme with the facts of the industry.

If the requirements of cottage-building are to be met without depleting the ranks of the industry, it is clear that careful organisation is necessary, otherwise abnormal cottage-building must lead to increased labour costs, as it has already done for materials. A guarantee of continuity of programme would also appear to be essential.

In the opinion of Professor Geddes private enterprise should deal with the prosperous artisan, and the State must begin with the submerged tenth.

It is an illusion to base a housing programme on the idea that by a brief and intense application of collective activity, the housing shortage can be eliminated. The elimination of the problem is nothing short of perpetual construction at the required rate.

TABLE showing the AREA, NUMBER of DWELLING HOUSES, and POPULATION of the CITY of DUBLIN as at present existing, with special comparison of the Health and Housing conditions existing in the old City Area, as it was prior to the Year 1900, and the Health and Housing conditions in the Area added to the City by the extension of the boundaries in that Year. Detail particulars are also given for each Ward of the City.

In each case in order to arrive at the net acreage of inhabited houses Area a percentage has been deducted from the gross acreage for land covered by water occupied by Railway Termini, Railroads, Streets, Roads, Factories, Stores, Business Premises, Public and Private Institutions, Recreation Grounds, Parks, Squares, etc. The number of one-room tenement dwellings is shown; also the death-rate (adult and infantile) in each Area and Ward.

DIVISION or WARD.	Gross Area in Statute Acres.	Percentage deducted.	Net Area in Statute Acres for Inhabited Houses.	Number of Inhabited Houses.	Population.	Number of One-room Tenements occupied by Families of 1 to 12 Persons.	Average density of Persons per Acre of Inhabited Houses Area.	Average density of Houses per Acre.	Average Death-rate per 1,000 from all causes.	Infantile Mortality per 1,000 Births.	Total Number of Families.
		Per cent.									
Old City	3,808	50	1,904	30,576	265,952	20,683	139·6	16·0	23	174	57,815
Added Area ..	4,103	10	3,692	7,021	38,850	450	10·5	1·9	14	71	8,445
TOTAL for existing City Area	7,911	—	5,596	37,597	304,802	21,133	—	—	—	—	66,260
Ward:											
	A. R. P.										
Arran Quay ..	569 0 0	50	284·5	4,541	35,019	1,477	123·2	15·96	19·9	122	7,613
Clontarf East ..	741 3 7	10	667·5	658	3,303	34	4·8	·98	13·3	77	718
Clontarf West ..	696 2 14	,,	626·75	1,099	5,662	58	9·0	1·7	13·3	77	1,231
Drumcondra ..	722 1 19	,,	650·1	1,803	9,774	98	15·0	2·7	17·2	88	2,125
Fitzwilliam ..	202 0 22	50	101·7	1,711	12,404	781	122·8	16·8	24·2	148	2,696
Glasnevin	852 2 32	,,	267·25	1,861	10,481	99	13·8	2·4	12·1	119	2,278
Inns Quay ..	226 0 0	,,	113·0	2,586	23,305	1,789	206·2	22·8	23·7	159	5,066
Mansion House ..	114 0 5	,,	57·015	918	11,189	1,206	196·2	16·1	24·2	148	2,432
Merchants' Quay ..	312 3 13	,,	156·415	3,271	25,705	1,974	164·4	21·0	23·5	173	5,588
Mountjoy ..	221 0 21	,,	110·565	2,932	25,988	2,650	235·0	26·4	24·4	146	5,652
New Kilmainham ..	906 1 5	20	860·75	1,600	9,630	161	11·1	1·9	15·8	159	2,093
North City ..	82 0 14	50	41·045	887	7,886	881	192·0	21·6	23·4	173	1,714
North Dock ..	565 0 1	,,	282·503	3,354	24,506	1,808	86·8	11·8	23·4	152	5,327
Rotunda	138 0 4	,,	69·012	1,425	15,617	1,884	226·4	20·6	23·7	159	3,395
Royal Exchange ..	71 1 3	,,	35·635	649	6,532	680	183·25	18·2	24·1	174	1,420
South City ..	54 1 27	,,	27·22	502	3,857	253	141·6	18·4	24·5	164	838
South Dock ..	403 1 13	,,	201·665	1,763	15,074	1,145	74·8	8·6	24·1	174	3,277
Trinity	160 0 27	,,	80·095	1,005	11,081	1,185	137·8	12·6	24·1	174	2,409
Usher's Quay ..	712 1 21	,,	356·19	2,656	25,793	1,308	72·4	7·4	21·9	182	5,607
Wood Quay ..	159 1 7	,,	79·645	2,376	21,986	1,662	266·2	29·8	26·2	148	4,779

NOTE.—The figures given in the above Table for population and houses are based on the particulars furnished by the last annual report (published for the year 1919) of the conditions of public health of the city of Dublin. Since that report it has been estimated that the population has increased by 5,698 persons, and the number of houses by 2,203. It is not disclosed how this increase of houses and population is distributed, but the effect on the analysis would be inappreciable.

HOUSING CARRIED OUT BY LOCAL AUTHORITIES.

Housing of the Working Classes (Ireland) Acts, 1890-1921.

DUBLIN CORPORATION.

Location.	Dwellings.	
Benburb Street	143	(Flats)
Bow Lane	86	„
Bride's Alley	172	„
Foley Street	458	„
Blackhall Place	109	(some Flats)
Trinity Ward	76	(Flats)
Townsend Street	20	„
St. Joseph's Place	80	(Cottages)
Elizabeth Street	14	„
Clontarf	57	„
Donnycarney	8	„
Inchicore	331	„
Spitalfields	74	„
St. James's Walk	60	„
Cook Street	45	„
Lurgan Street	48	„
Church Street	144	„
Ormond Market	105	(some Flats)
Mount Brown	201	(Cottages)
Chancery Street	12	„
Boyne Street	78	(Flats)
Fairbrother's Fields	353	(Cottages)
Donnelly's Orchard	84	„
Marino (not complete)	428	„
TOTAL	3,187	

URBAN COUNCILS.	Cottages.
Blackrock Urban District Council	297
Dalkey Urban District Council	104
Dun Laoghaire Urban District Council	543
Howth Urban District Council	12
Killiney and Ballybrack Urban District Council	53
Pembroke Urban District Council	821
Rathmines and Rathgar Urban District Council	496
TOTAL	2,326

PROVISIONAL GOVERNMENT SCHEME OF MARCH, 1922—(£1,000,000 GRANT).

* *Number of Houses provided in the Civic Survey Area.*

LOCAL AUTHORITY.	Minimum Number of Houses Provided.
Dublin Corporation	943
Blackrock Urban District Council	40
Dalkey Urban District Council	16
Dun Laoghaire Urban District Council	60
Howth Urban District Council	12
Killiney and Ballybrack Urban District Council	10
Pembroke Urban District Council	62
Rathmines and Rathgar Urban District Council	140
TOTAL	1,283

* NOTE.—This number forms portion of the returns under the Housing of the Working Classes (Ireland) Acts, 1890 to 1921.

LABOURERS (IRELAND) ACTS, 1883-1919.

Number of Houses provided in the Civic Survey Area.

Local Authority.	Number of Cottages.
North Dublin Rural District—	
Already provided	574
In course of erection	30
South Dublin Rural District—already provided	642
Celbridge No. 2 Rural District—already provided	96
Balrothery Rural District—already provided	574
Rathdown No. 1 Rural District—already provided ..	295
Total ..	2,211

HOUSING (ADDITIONAL POWERS) ACTS, 1919-1921.

Number of Houses provided in the Civic Survey Area.

Area.	Number of Houses.
Dublin County Borough	70
Blackrock Urban District	1
Dalkey Urban District	1
Dun Laoghaire Urban District	1
Howth Urban District	27
Killiney and Ballybrack Urban District	1
Pembroke Urban District	20
Rathmines and Rathgar Urban District	82
Total ..	203

GOVERNMENTAL.

Irish Land (Provision for Sailors and Soldiers) Act, 1919.

		Cottages.
Killester Housing Scheme	Killester, Co. Dublin ..	247
Clontarf Housing Scheme	Victoria Road, Dublin ..	40
Inchicore Housing Scheme	South Co. Dublin	32
Pembroke Housing Scheme	Sandymount, Co. Dublin ..	40
Castleknock and Puckstown	North Co. Dublin	30
Palmerstown	South Co. Dublin	14
Rathdown	Dundrum, Co. Dublin ..	25
North Dublin	Raheny, Co. Dublin ..	12
Howth	Howth, Co. Dublin ..	5
Dun Laoghaire	Dun Laoghaire, Dublin ..	20
	Total ..	465

HOUSING ASSOCIATIONS, COMPANY, AND PRIVATE SCHEMES.

Body by whom Erected.	Dwellings' Location.	Dwellings.	Estimated Population.
By the Dublin Artisans' Dwellings Co., Ltd.	Temple Buildings	56	387
	Temple Cottages	27	
	Rutland Street Cottages	46	696
	Buckingham Buildings	92	
	Echlin Street Buildings	36	127
	Kirwan Street Cottages	130	593
	Coombe	212	1,230
	New Row and Meath Terrace	14	
	Portobello Cottages	154	817
	Harold's Cross Cottages	318	1,477
	Plunkett Street Cottages (near Francis Street)	137	683
	Infirmary Road Cottages	186	932
	Lower Clanbrassil Street Cottages	128	482
	Rialto Buildings	108	1,324
	Rialto Cottages	209	
	Seville Place	88	431
	Crampton Buildings (Crampton Quay)	72	255
	Eden Road (Dun Laoghaire)	116	479
	Thomas Court Buildings	96	310
	Warrenmount Cottages	25	108
	Arbour Hill Cottages—		
	(Middle Section, Mount Temple Estate)	339	1,466
	Lower Section	344	1,584
	Upper Section	322	1,279
	Aughrim Street	260	1,231
Buildings erected by the Iveagh Trust (formerly the Guinness Trust Building)	Bride's Alley, Iveagh House	508	—
	Tenements	588	2,205
	Bride Street	128	—
Alexandra Guild Tenements Co., Ltd.	Pembroke Gardens	16	70
	6, 7 and 8 Summer Hill; 26, 27 and 28 Grenville Street, and 28A Grenville Place	78	234
Association for the Housing of the Very Poor, Ltd.	Werburgh Street and Derby Square	39	190
	Allingham Buildings, John Street	118	620
The Industrial Tenement Co., Ltd.	Meath Street and South Earl Street	50	250
Killester Public Utility Society, Ltd.	Killester Garden Suburb	7	36

HOUSING ASSOCIATIONS, COMPANY, AND PRIVATE SCHEMES—*Continued.*

Body by Whom Erected.	Dwellings Location	Dwellings.	Estimated Population.
The City and Suburban Workmen's Dwellings Co., Ltd.	Cameron Street, Fingal Street, Maxwell Street, and Eugene Street, off Cork Street	205	1,250
	Coombe and Pimlico	17	70
	Harman Street, off Donore Avenue ..	27	135
	Inchicore	38	190
Social Service Tenement Co., Ltd. ..	6, 7, 8, 9, 11, 14, 15, 24 and 25 Grenville Street	77	272
Great Southern and Western Railway ..	Inchicore Cottages	146	850
	North Wall—tenement houses ..	15	75
Midland Great Western Railway Co. ..	Great Western Square, N.C.R. ..	42	400
	Great Western Villas, N.C.R. ..	40	
Messrs. Arthur Guinness, Son & Co., Ltd.	—	87	450
Messrs. Watkins & Co., Ltd., Brewers ..	—	87	400
The Dublin United Tramways Co., Ltd.	Donnybrook, Clontarf, Phibsborough, Blackrock, and Terenure	—	—
Private Enterprise	Sandwith Street	—	—
Messrs. Pile, Builders, Erne Street ..	Golden Lane, Arthur's Lane, and Wood Street	90	500
Mr. Beckett, Builder, South Dock Works, Ringsend	Barrow Street, three and four-room Cottages.	117	450
	Two-storey Cottages	6	36
	Do.	8	40
Mr. Patterson	Commons Street	36	180
Vance's Buildings	Bishop Street	180	780
Earl of Meath's Property	Pimlico, Thomas' Court, Hanbury Lane and New Row Cottages	73	450
	South Earl Street	20	
St. Barnabas' Public Utility Society, Ltd.	St. Barnabas' Gardens	10	—
	Utility Gardens	26	
	New Sites (now building)	64	—
	TOTAL	6,488	—

EXTRACTS FROM SURVEY OF HOUSING NEEDS COMPILED IN 1919.

LOCAL AUTHORITY. (1)	Net Estimate of Number of Working-class Houses required during next Three Years. (2)	Number of Houses in Unhealthy Areas required to be dealt with under Part I. or Part II. of the Act of 1890. (3)	Population (Approximate). (4)	Number of Inhabited Houses (other than those in Col. 3) which are not, and cannot be made fit for human Habitation. (5)	Population (Approximate). (6)	Number of Houses which are seriously Defective but can be made Habitable. (7)
Blackrock Urban District Council	87	—	—	1	—	46
Dalkey Urban District Council	35	—	—	—	—	—
Dublin Corporation ..	21,780	1,889	16,686	4,978	51,002	843
Dun Laoghaire Urban District Council	807	342	1,827	279	1,567	42
Howth Urban District Council	28	—	—	10	50	5
Killiney and Ballybrack Urban District Council	27	—	—	—	—	6
Pembroke Urban District Council	650	301	1,930	31	322	149
Rathmines and Rathgar Urban District Council	239	162	752	166	768	62
TOTAL ..	23,653	2,694	21,195	5,465	53,709	1,153

HOUSING MAPS.

Explanatory Note.

The scale of the original Survey Map is 6 inches to the mile.

This Map is of the whole area covered by the survey, and shows the sites of housing schemes undertaken by the Government (blue) ; by the municipality (solid red) ; private companies (yellow).

Schemes in process of erection by the municipality are scored in red, while those in contemplation are outlined in red.

Grey tint represents the unhealthy areas referred to in the Hygiene Map, and black are sites of tenement dwellings.

Green are sites available for building.

The scale of the original Survey Map is 25 inches to the mile.

This Map deals with the same section, but is of the central area only. Green tinting indicates the existing playgrounds and planted spaces. Grey tint shows the unhealthy areas, while black are the tenements. Those tenements with a red cross are condemned as actually dangerous structures. In the latter there are at present 250 families living. From these two Maps and from those dealing with Hygiene will be seen the enormous problem which has to be faced, if Dublin is to house its population in decent surroundings.

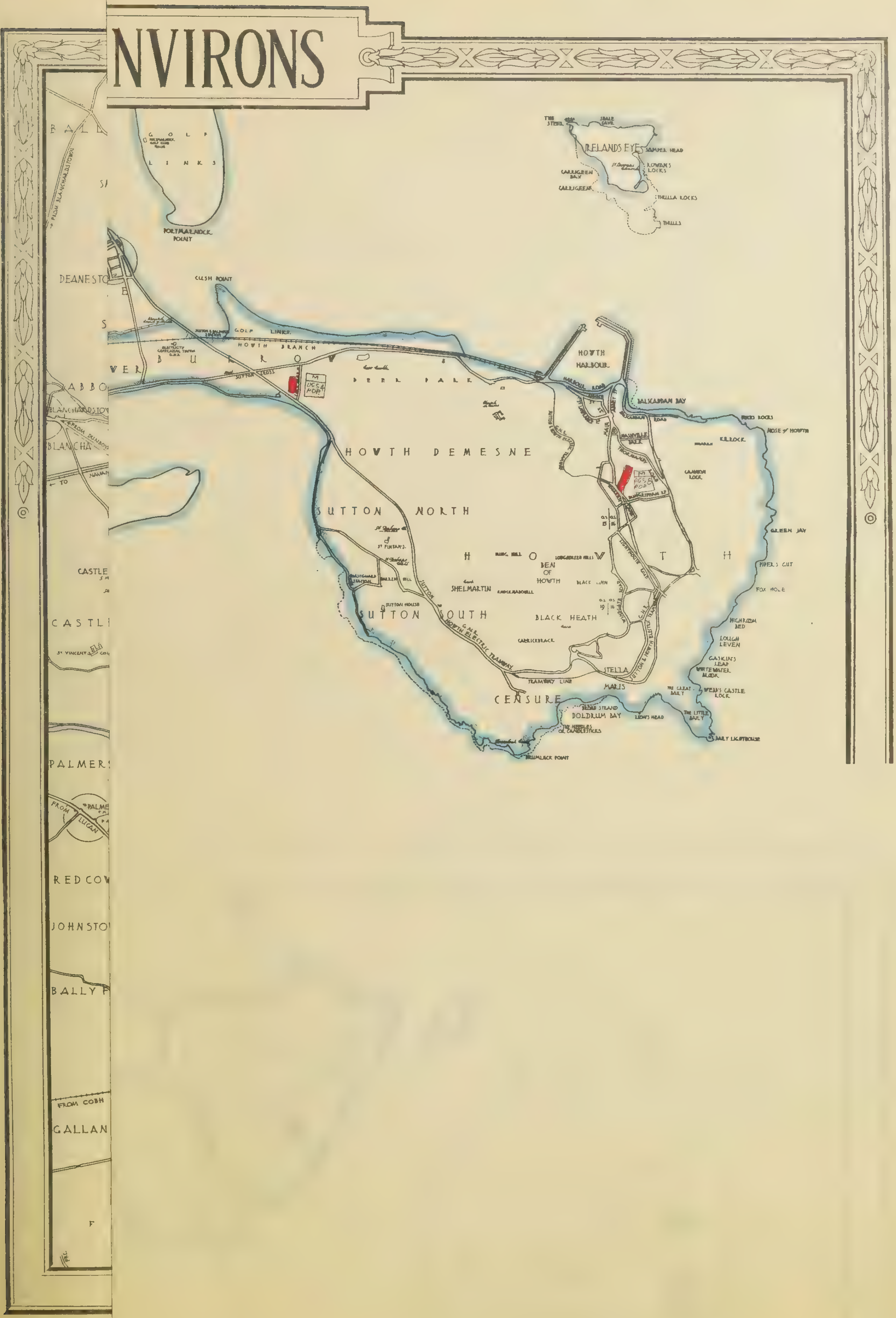

NVIRONS
THE STEEL
SEAL CAVE
IRELANDS EYE
SAMPER HEAD
ROWANS LOCKS
CARRIGEEN BAY
CARRIGEEN
THULLA ROCKS
THULLS
GOLF LINKS
PORTMARNOCK POINT
CUSH POINT
GOLF LINKS
SUTTON & BALDOYLE STATION
HOWTH BRANCH
ELECTRICITY GENERATING STATION G.N.R.
BURROW
SUTTON CROSS
M DGS 4 POP
DEER PARK
HOWTH HARBOUR
HARBOUR ROAD
BALSCADDAN BAY
BALSCADDAN ROAD
MAIN ST
ABBEY ST
NASHVILLE PARK
THORMANBY ROAD
M DGS 8 POP
KILROCK
CANNON ROCK
NOSE of HOWTH
GREEN BAY
HOWTH DEMESNE
SUTTON NORTH
ST FINTAN'S
BARREN HILL
SUTTON
SUTTON HOUSE
SUTTON SOUTH
HOWTH
BEN OF HOWTH
SHELMARTIN
BLACK HEATH
CARRICKBRACK
LIGHTHOUSE ROAD
WINDGATE ROAD
O.S. 15 | O.S. 16
O.S. 19 | O.S. 16
G.N.R. HOWTH ELECTRIC TRAMWAY
SUTTON & HOWTH ELECTRIC TRAMWAY
TRAMWAY LINE
STELLA
MARIS
CENSURE
BROAD STRAND
DOLDRUM BAY
THE NEEDLES OR CANDLESTICKS
DRUMLECK POINT
LION'S HEAD
THE GREAT BAILY
THE LITTLE BAILY
BAILY LIGHTHOUSE
WEAVER'S CASTLE ROCK
WHITEWATER BROOK
CASKIN'S LEAP
LOUGH LEVEN
HIGHROOM BED
FOX HOLE
PIPER'S GUT
DEANESTO
VER
ABBO
BLANCHARDSTOW
FROM BLANCHARDSTOWN
FROM DUNBOYNE
BLANCHA
TO
NAVAN
CASTLE
CASTL
ST VINCENT
PALMERS
FROM LUCAN
REDCOW
JOHNSTO
BALLY
FROM COBH
GALLAN
F

PLATE XLVIII.

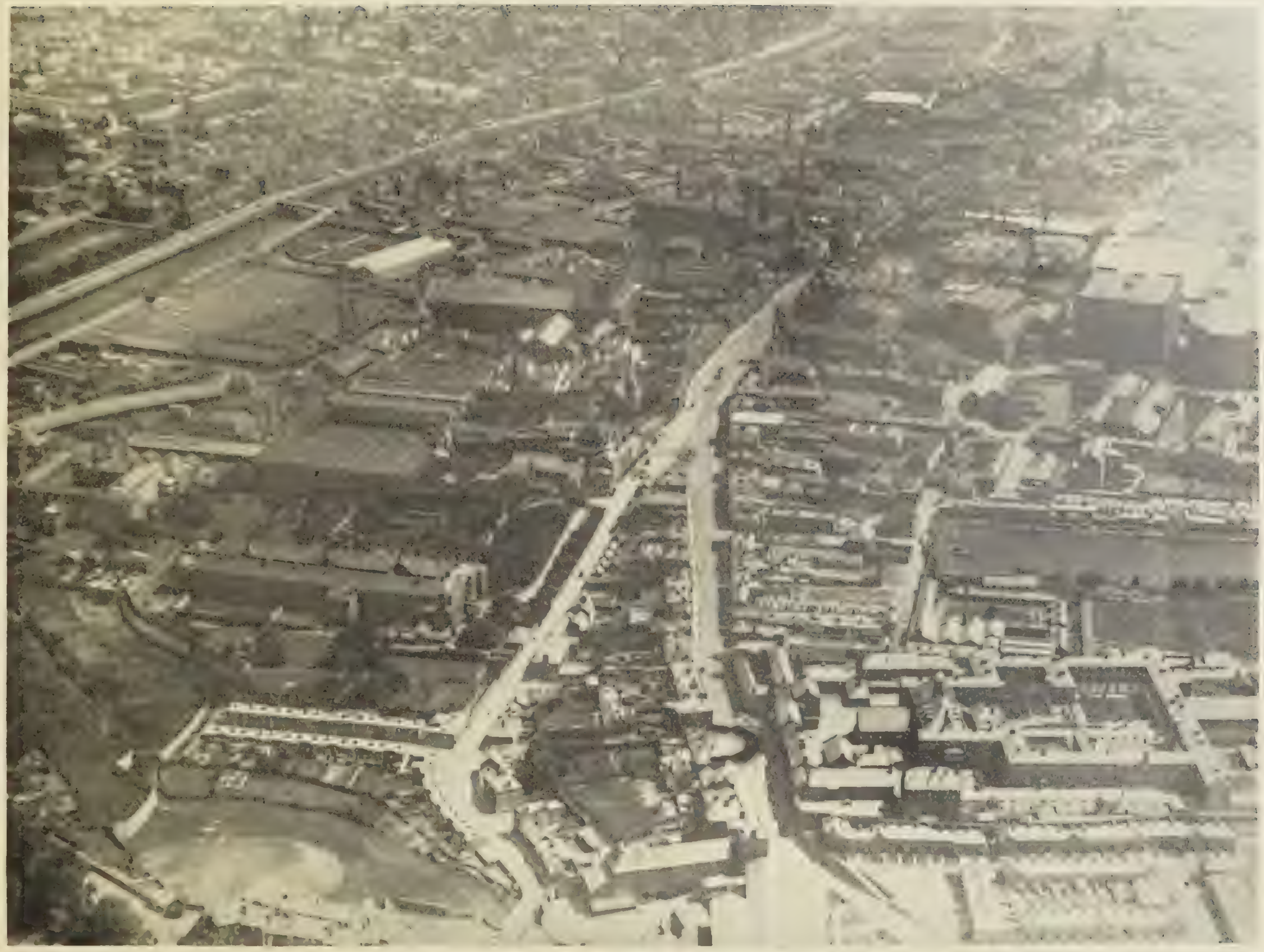


Photo by Army Air Corps]

[By courtesy of the Minister for Defence.

Aerial View of Messrs. Arthur Guinness Son & Co.

VI.—INDUSTRY AND COMMERCE.

It may be correctly stated that the capital of the Irish Free State enjoys many natural advantages, which make it an ideal centre for manufactures. It has a Port of ample possibilities which might be magnificently equipped; all the great railroads of the island converge upon it; it is surrounded by a rich agricultural neighbourhood; some of the raw materials of industry are convenient to its doors, and intelligent labour is not wanting. Only the fuller development of technical education and the tradition of industry are needed to make Dublin a centre of craftsmanship. The actual fact is, however, that as a manufacturing centre Dublin is to-day comparatively negligible.

The municipal debt of Dublin is at present less than three millions, whereas Edinburgh is six millions; Leeds, twelve millions; Sheffield, ten millions; and Bristol, nine millions. All these cities have somewhat comparable populations. The debt of Manchester is twenty-two; Birmingham, eighteen; Glasgow, fifteen; and Liverpool, ten millions.

The rates levied in the financial years 1923-1924 and 1924-1925 in Belfast and seven English County Boroughs having somewhat comparable populations with Dublin are as follows:—

—	Rateable Value.	Population.	Total Rates Levied.	
			1923-24.	1924-25.
	£		s. d.	s. d.
Belfast	1,814,442	429,000	9 8	9 6
Bradford	2,378,912	290,800	16 0	14 7
Bristol	2,082,386	385,600	15 7	15 2
Cardiff	1,618,347	226,200	12 6	12 3
Hull	1,609,472	296,900	14 3¾	13 7¾
Newcastle-on-Tyne ..	1,989,481	283,800	13 6	13 6
Nottingham	1,614,820	269,300	15 0	13 8
Portsmouth	1,233,476	252,300	11 4	11 2
Dublin ..	1,179,932	333,000	19 9	—
	1,193,658	333,000	—	19 2

In Belfast there is no municipal water rate and no city police rate, and in the English County Boroughs there is a somewhat different system of rating, which provides a higher rateable value with a consequent reduction in the total rates levied. In Belfast the penny in the pound brings in about £7,200, whereas in Dublin it brings in only about £4,500.

Owing to recent developments Dublin hopes to become one of the largest distributing centres of electrical power, and this should prove a valuable attraction for new industries. Industrial power cannot be obtained as cheaply here as in most European countries. There is no doubt that large works in a city tend to bring others, while the bigger the city the more powerful the influence it exerts over industries generally. It is believed that Dublin is now about to enlarge its area.

An extension scheme now being considered by Glasgow Corporation proposes an addition of 20,000 acres to the area of the city, giving a total area of 47,000 acres, or more than Liverpool and Manchester combined.

Dublin at present has a municipal area of only 8,172 acres, Liverpool 24,102 acres, and Manchester 21,690.

The next couple of generations will, it is hoped, see Dublin a throbbing hive of industry, and a centre of great commercial importance.

The power possibilities of the river Liffey have recently been subjected to the closest investigation, and according to the opinion of experts, the Liffey Scheme is one of considerable promise, and there is a great deal of scope for future development in electrical supply in Dublin. Hitherto, Dublin has been a city of no particular character beyond being the typical capital of a country in economic subjection, and suffering from consequent economic decay. The recent political change must result in rehabilitation, and expansion will inevitably create a much increased demand for electrical power to cope with modern industry. At present the city uses only about 80 units of electricity per head of population, whereas Edinburgh uses 119 and Liverpool 102·7, leaving out of comparison great industrial centres such as Leeds, Sheffield, Birmingham, and Glasgow. The river Liffey, if developed according to one of the plans under consideration, would be capable of supplying 41½ millions of units of electricity, as against the present Dublin requirements of some 32 millions of units. It is the opinion of some experts that the most rational method would be to combine the river power and the existing steam power works, giving thereby cheaper power to the present users. The main advantage of the river development would be to give ample security to local industries, and make them independent of imported coal. The inevitable trend of power supply all over the world is in the direction of unification of supply. The city and its environs at present have too many disjointed sources of supply, and the time is now ripe for the initiation of a combined power scheme on co-operative lines.

Any such power development, if carried to fruition, would have far-reaching influences on the city's development. The valley of the Liffey would become of great industrial importance, and housing for the working classes would follow in the neighbourhood. The Lucan and Blessington routes would have to carry increasing traffic, and around the Poulaphouca Lake would probably arise a new residential neighbourhood and pleasure resort.

In order to ascertain the exact position of Dublin as a centre of industrial activity, it would be necessary to rely upon a Census of Production of a kind which is usual in the State Ministries of Industry and Commerce in other countries. No such census exists as yet for the Irish Free State, and its need is being increasingly felt.

In England the Census of Production Act, 1906, contemplated an annual census. This was interrupted by the War, but it is now to be revived for 1925. In the United States of America a biennial census of Manufactures is now taken.

In England the Board of Trade deals with the matter, and in the first place a question is asked relating to the quantity and selling value of output, secondly the value of all materials, including fuel used in the production of output, and thirdly the number, age, and sex of persons employed either as "wage earners" or "salaried persons." The time worked in factories, and the consumption and description of mechanical power is also investigated. All returns made are compulsory but confidential, and cannot be transmitted even to another Government Department.

To-day the business community no longer needs to be told of the value of these periodical surveys to the economic condition of the country. The census provides a ready means of estimating the national income, and a measure of the values created by our industrial activities.

Our Ministry of Industry and Commerce has, however, prepared a statement of the estimated values of certain commodities imported into and exported from the Irish Free State during the eight months ending August, 1924, and nothing more recent is available. For a country at the beginning of its economic development, and with its own fiscal arrangements, a Census of Production, which would be comprehensive and show the number of works in each industry, and the number of hands employed, would undoubtedly be valuable and necessary. The statement of the Ministry referred to deals with imports and exports under four classes: *Class I.* Food, Drink and Tobacco; *Class II.* Raw Materials and Articles mainly unmanufactured; *Class III.* Articles wholly or mainly manufactured; *Class IV.* Animals (not for food). These statistics apply to the whole Irish Free State. The position during the period mentioned is disconcerting, and works out as follows: Imports, £43,946,130; Exports, £30,412,984, leaving a debit balance of £13,533,146. Were it not for our exports of Food, Drink and Live Stock, which amounted to £25,831,660 in value, the Nation would be bankrupt. It should be remembered that Great Britain is our best customer, with purchases over £22,000,000.

BANKING.

In the year 1845, the latest Act on the subject of Irish Banking was passed, and is generally known as the Irish Bank Charter Act. Dublin has always been the chief centre of the banking system of the country. Several private banks were established in Dublin in the latter part of the seventeenth century, and in 1759 an Act was passed for the regulation of private bankers in Ireland. One of the most noted of these was the bank of La Touche & Co., whose premises still stand in Castle Street. An Act of the Irish Parliament passed in 1782 established the Bank of Ireland as a joint stock bank, and it commenced business in Mary's Abbey, subsequently removing in 1802 to the old Parliament House, then derelict. Following an amending Act in 1825, the Northern, Hibernian and Provincial Banks were established. In the years 1827 and 1835 the Belfast Bank and National Bank respectively were established. The Royal Bank and Munster and Leinster Bank were formed in 1836 and 1864, respectively. Since the outbreak of the European War Irish bank notes have been made legal tender.

With the exception of the Bank of Ireland, all the Irish joint stock banks have adopted limited liability. The nominal capital of the nine existing Irish Banks, excluding the recently established Land Bank, is £26,349,230, of which £7,309,230 is paid-up capital. The Land Bank was established in 1920, with a nominal capital of £2,406,636, and a paid-up capital of £203,337.

Banking statistics referring to Irish Banks indicate that in the year ending 31st December, 1915, the total deposits and cash balances amounted to the very large sum of £66,803,000. Why should there remain such a sum as this lying dormant while Irish enterprises are suffering from want of capital? Is it due to a too-conservative banking system and does the banking system of this country compare favourably in its attitude towards enterprise and industry with that which obtains in progressive countries elsewhere? Including the Post Office and all forms of banking, there is at present about £90,000,000 of money available for investment in national concerns.

EXISTING FACTORIES AND WORKSHOPS.

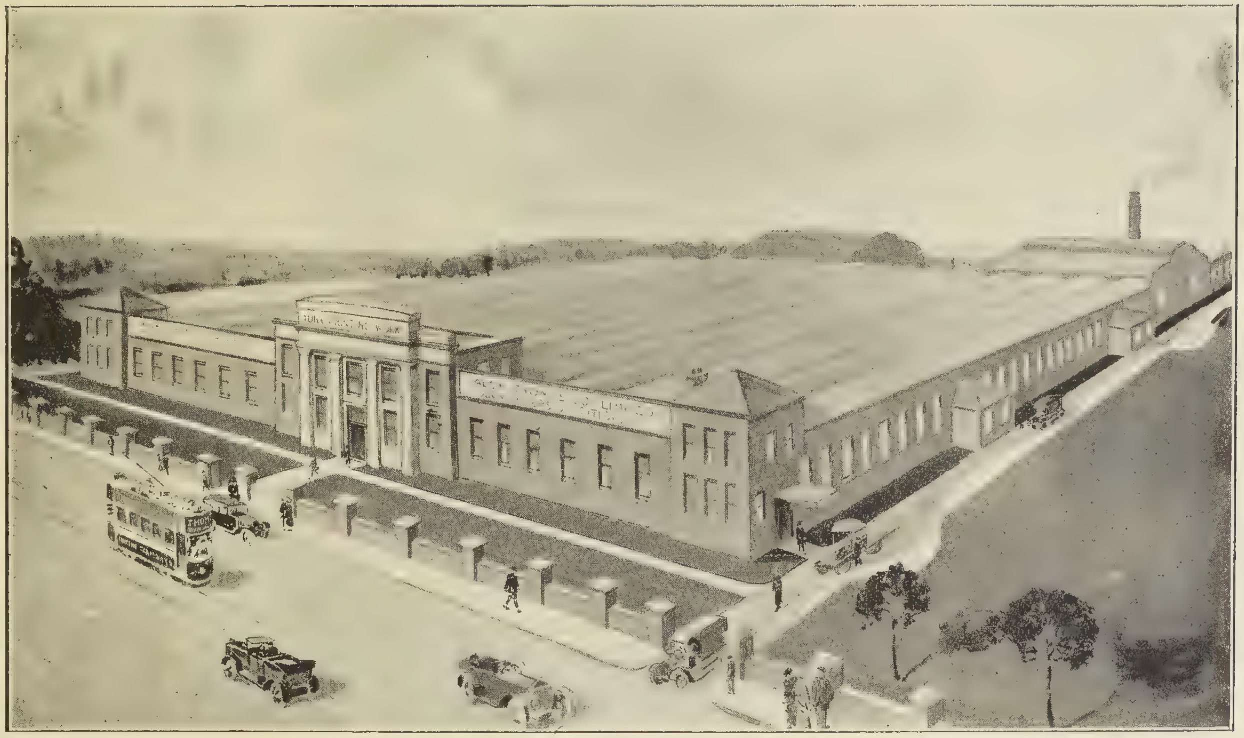
The sites and nature of existing factories and workshops (employing over twenty hands) are indicated upon the map dealing with Industry and Commerce of this Survey. This map also indicates existing Main Zones appertaining to Industry and Commerce within the central city area, but there has been a tendency in recent years for industries to seek sites in the suburbs. It has been found impracticable to record the employment afforded by the various factories and workshops, but a record is given later of the number of insured persons working in the main industrial groups.

It has also been found impracticable to give an indication of the tendencies towards decay or development, as industrial concerns are reluctant to give information of an intimate nature. A considerable amount of information on this subject will be found in the Final Report of the Fiscal Inquiry Committee, now published. In the opinion of Dr. George O'Brien, a member of this Committee, the industrial and commercial conditions in Dublin would be improved by (1) an attempt to provide better houses for the working classes; (2) the creation of some machinery for the peaceful settlement of labour disputes; (3) measures directed against profiteering by shopkeepers at the expense of the poor; (4) the encouragement of consumers' co-operative stores, and (5) the reform of the municipal government of the city, whereby rates could be reduced, and public services more economically provided.

The Fiscal Inquiry Committee was appointed on the 15th June, 1923, to investigate and report (*a*) as to the effect of the existing fiscal system, and of any measures regulating or restricting imports or exports, on industry and agriculture in the Irish Free State; (*b*) as to the effect of any changes therein intended to foster the development of industry and agriculture, all with due regard to the interests of the general community, and to the economic relations of the Free State with other countries.

The Committee reports that the volume of industry with respect to which a protective tariff is desired is small, compared with that in respect of which there is no demand for a change in the existing system; that the inability of Irish industries to hold their own against outside competition is due to causes of (1) a normal and permanent character; (2) an abnormal character arising out of post-war conditions generally; that there is a difficulty in obtaining raw materials, especially in some important industries; that there is a want of cheap and ample power; that transport charges are excessive, and contrary to the interests of industrial progress; that there is a lack of specially trained skilled labour; that the higher cost of wages is sometimes bound up with inefficiency in management; that capital for the promotion of industrial enterprise is not readily obtainable in Ireland; that some industries have an unfavourable location; that there was a prejudice on the part of the Irish public against certain classes of Irish manufacture.

PLATE XLIX.



By courtesy of] Printing Works. [Messrs. Alex. Thom & Co., Ltd.

A list of goods manufactured (or partly so) in Dublin and its environs is appended hereto.

Goods Manufactured (or partly so) in Dublin and Environs.

A.

Acid (sulphuric).
Aerated Waters.
Agricultural Implements.
Aeroplane Fabric.
Ale.
Altars.
Altar Linen Embroidery.
Ambulances.
Ammonia.
Abdominal Belts.
Army Clothing.
Arm Bands.
Art Leaded Glass.
Art Metal Work.
Artificial flowers.
Artificial Limbs, etc.
Astronomical Instruments.
Asphalte.
Automobile Trimmings.
Awnings.
Axles.

B.

Bacon.
Bacon Wrappers.
Bags (Jute and Heavy Twill).
Bag-pipes.
Baking powder.
Bamboo Furniture.
Bandoliers.
Banners.
Baptismal Fonts.
Bar Fittings.
Barrows.
Baskets.
Beacon Lights.
Beads (Rosary).
Bedding.
Bee Hives.
Bells (Church, Ship, etc.).
Belting (Machinery).
Bicycles.
Biscuits.
Blacking.
Blankets (wool).
Blinds.
Blocks (printing).
Blouses.
Blue.
Boats.
Bodies (Motor Car).
Bog Oak.
Boilers.
Books (business and literary).
Bookcases.
Boot polishes.
Boots.
Bottled fruits.
Bottles.
Boxes (wooden and cardboard).
Braces (Men's).
Brasswork.
Bricks.
Billiard Tables.
Bridges (Iron and Steel).
Bits (Riding and Driving).
Brown Malt.
Brushes (all kinds).
Buckets.
Builders' Ironwork.
Buildings (Iron and Steel).
Buoy Lights.
Buoys.
Butter Firkins.

C.

Canal Boats.
Candles (all kinds).
Curtains.
Caps.
Calf Meal.
Calico.
Carpets.
Carriage Lamps (and trimmings).
Cars.
Cart Covers.
Castings (Iron and Steel).
Cattle Feeding Stuffs.
Ceiling Slabs.
Chairs.
Charcoal.
Chemical Manures.
Chemicals.
Chocolates.
Church Furniture.
Church Vestments.
Churns.
Cigarettes.
Clay Pipes.
Clocks (Turret).
Cloth.
Cisterns.
Clothing (Men's).
Coachbuilding.
Cocoa.
Collars (Men's Linen and Soft).
Collars (Horse).
Colours (Paints).
Coffee.
Coffins.
Combs (Hair).
Compasses.
Confectionery.
Cordage.
Corsets.
Cotton Cake.
Cotton Canvas.
Cotton Duck.
Cotton and Union Goods.
Cradles.
Crochet.
Crucifixes.
Cups (Silver).
Curtains.
Cutlery.

D.

Damasks.
Dairy Machinery.
Deformity Apparatus.
Disinfectants.
Dough Mixers.
Dress Goods.
Dynamos.

E.

Educational Requisites.
Electrical Engineering.
Electro-plating.
Embrocation.
Embroidery.
Engraving.
Enamels.

F.

Feathers.
Fertilizers.
Fibrous Plaster.
Fire Extinguishers.
Fireproof Partitions.
Firkin Butter Covers.
Fishing Lines.
Fixtures (Office).
Flannels.
Flour.
Footballs.
Furs.
Furniture (House, Church and School).
Furniture (Upholstery).

G.

Galvanized Hollow Ware.
Gas Meters.
Gates (Entrance and Wicket).
Gear Cutting for Motors.
Ginger Ale.
Ginger Beer.
Greenhouses.
Grinders.
Gully Traps.
Gum.

H.

Hair Mattresses.
Hams.
Harness.
Hat Racks.
Hats.
Hay Baling Cord.
Health Salt.
Heating Apparatus.
Hides.
Hoods for Motors.
Hop Bitters.
Horse Feed and Clothing.
Horse Remedies.
Hosiery (Silk and Cotton).

I.

Ice.
Incense.
Inks (Printing and Writing).
Instruments (Surgical and Mechanical).

J.

Jams.
Japanning.
Jewellery.
Joinery.
Jute Yarn.

K.

Kit Bags.

L.

Laboratory Fittings.
Laces.
Lamps and Lanterns.
Lard.
Laths.
Lead Piping.
Leather Belting.
Lemonade.
Lighters (River).
Linen.
Linseed Cake.

M.

Machinery Belting.
Mats.
Magnesia.
Malt.
Malt Sacks.
Marmalade.
Matches.
Mattresses.
Medals.
Methylated Spirits.
Miller's Twines.
Mineral Waters.
Mirrors.
Mosaic.
Motor Launches.
Motor Clothing.

O.

Oatmeal.
Oils (Lubricating).
Ovens (Bakers').
Ointments.
Organs.

P.

Packing Cases
Paper (Writing and Wrapping).
Paste.
Paving Material.
Peat Fuel.
Photo Engraving Blocks.
Pianos.
Pickles.
Picture Frames.
Pillow Cases,
Pipes for Smoking.
Polishes (Boot and Furniture).
Poplin, Dress Material, Neckwear, etc.
Porter.
Portmanteaus.
Pot Still Whiskey.
Poultry Meal.
Pulleys.
Pumps.
Pyjamas.

R.

Racquets.
Rainproofs.
Red Lead.
Revolving Shutters.
Roasted Malt.
Roofing (Iron).
Roofing (Prepared).
Ropes.
Rubber Stamps.
Rugs (Carriage).
Ryanite Flooring.

S.

Sacking.
Saddlery and Harness.
Salt.
Sails.
Sauces.
Satin.
Scales.
Scapulars.
Sculpture.
Sewer Machines.
Sealing Wax.
Sheet Lead.
Sheep Dips.
Shields (Competition).
Ships (Iron and Steel).
Shirts.
Shoes.
Shop Fittings.
Shop Signs.
Silks.
Silver Cups.
Skins.

Soaps.
Socks (Men's).
Soda Water.
Steamers.
Stockings (Ladies').
Stout.
Suitings.
Superphosphates.
Suspenders.
Sweeps' Machines.
Sweets.

T.

Tapestry.
Tents.
Tinware.
Tobacco.
Tools.
Toys.
Travelling Rugs.
Trimmings (Carriage).
Tugs.
Tweeds.
Twine.

U.

Umbrellas.
Underwear (Ladies', Men's).
Uniforms.

V.

Veterinary Specialities.

W.

Wagons.
Walking Sticks (Blackthorn).
Well-boring Appliances.
Whiskey.
Wire Fencing.
Wire Mattresses.
Woodwork (Carriage and Motor).
Wool Packs.
Woollen Suitings.
Wrought Ironwork.

Y.

Yachts.
Yeast.

Z.

Zinc Goods.

NATIVE INDUSTRIES.

The industrial life of Dublin has undergone changes and vicissitudes, and its trade has been peculiarly subject to political changes. Many of its old-time industries have been completely smothered by foreign and British competition, and it must be recorded that this sometimes took a specially organised form.

The difficulty confronting Irish manufacturers, apart from the necessity of importing raw materials, in recent decades, is to find custom of a stable kind, not threatened by sudden or organised competition. Irish government departments and local authorities are now in a position to place contracts at home for quantities which will ensure a manufacturer having a reasonable and continuous output from the start, as well as giving him a fair opportunity of developing his business along the usual trade channels.

AGRICULTURE.

In the industry of Agriculture it will be found that in the Irish Free State in the year 1923, the total acreage under crops (corn crops, green crops, flax, fruit and hay) was 3,739,146 acres, being 2·4 per cent. less than the previous year. In the same industry in the year 1920 (no later year available) the total acreage under crops in the County of Dublin was 73,723 acres out of a total county acreage of 226,784 acres. A steady increase was shown in the hay crop over the previous four years, and the area of the barley crop had more than doubled itself since the year 1919. The other crops were about equal to the previous four years. In our country Agriculture is, and is likely to remain, the main source of productive wealth.

LIVE STOCK.

In the Live Stock Industry we find that in the Irish Free State, in the year 1923, the number of cattle was 4,215,253, the number of sheep 2,994,420, the number of pigs 1,155,905. In the same industry in the year 1920 (no later year available) the numbers of live stock existing in the County of Dublin were—cattle, 76,683; sheep, 54,502; pigs, 9,791. A steady increase was shown in the number of cattle over the previous four years, a considerable decrease in sheep, and a large decrease in pigs.

BREWING.

Little is known of the early history of brewing in Ireland, where beer was not a national drink as in England, but in the seventeenth century Dublin was noted for its brown ale, and early in the eighteenth century it was estimated that the amount of beer annually produced in Ireland was nearly half a million barrels, Dublin and Cork being the chief brewing centres.

In 1759, Mr. Arthur Guinness bought Mr. Rainsford's brewery, and founded what is now the largest brewery in the world, and employs over 3,000 people. The Dublin Society took an active part in fostering the brewing industry, and as early as 1744 granted premiums to brewers who used the largest quantity of Irish hops. In 1791 the condition of the brewing industry attracted considerable attention in the Irish Parliament, the decline in brewing at that time being accompanied by a great increase in the consumption of spirits. In 1795 the beer tax was repealed, and the industry revived, and porter brewing is said to have received a marked stimulus at the beginning of the nineteenth century, though it was not until 1850–1860 that porter became a really popular drink, and the Irish trade became mainly a porter trade.

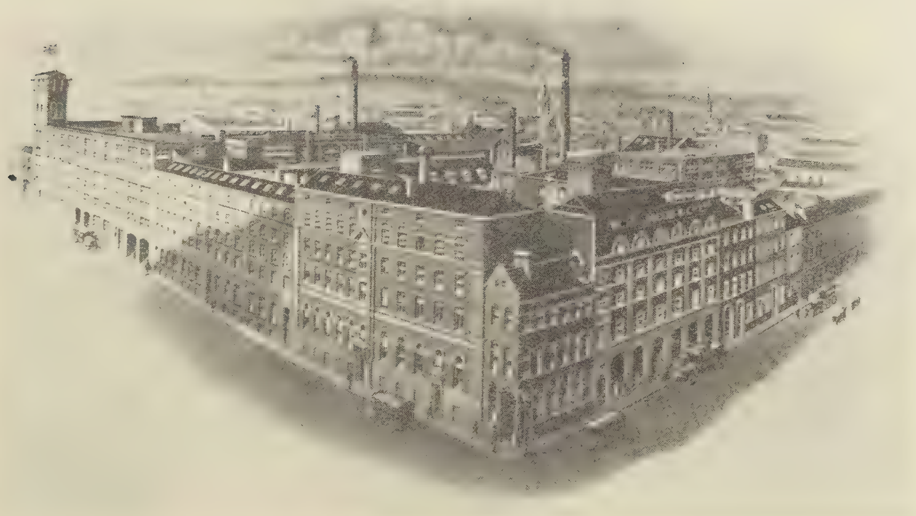
Most of the beer exported from Ireland was shipped from the port of Dublin, and the following figures are of interest:—

	Hogsheads		Hogsheads
1861	170,384	1891	460,985
1871	281,301	1901	459,864
1881	338,690		

The other brewing concerns are Messrs. John D'Arcy & Son; Watkins, Jameson and Pim; and the Mountjoy Brewery. In Dublin the retail trade is " free," not " tied " by the breweries, as in Cork.

DISTILLERIES.

The distilling industry has now reached enormous dimensions, but it is only in comparatively recent times that distilling has attained the important position it now occupies. It is generally admitted that distilling was practised in Ireland at an earlier period than in Great Britain, and Dublin is probably the oldest distilling centre in the world. In the twelfth century, when Henry II. invaded Ireland, the inhabitants were observed to be in the habit of making and using an alcoholic liquor called " usque baugh " (*uisge beatha*), of which the word " whiskey " is a somewhat modern corruption. Even before the reign of Elizabeth the Irish distilling industry had assumed considerable proportions, and restrictions had at various times been imposed upon the manufacture and sale of spirits. Before the reign of Charles II. the distilling of spirits from grain was sufficiently great to make spirits productive of revenue.



By courtesy of] [Messrs. W. R. Jacob & Co., Ltd.

Biscuit Factory.

By courtesy of] [Messrs. John Player & Sons.

Tobacco Factory.

A number of the most important distilleries in Dublin were started in the latter half of the eighteenth century. The Thomas Street Distillery was purchased in 1757, while the Bow Street Distillery and the John's Lane and Marrowbone Lane Distillery were all started before the end of the century.

The number of gallons of spirits distilled annually, in which Dublin had a considerable share, was as follows :—

1861 ..	.. 4,801,115	1891 ..	.. 12,988,924
1871 ..	.. 8,873,545	1901 ..	.. 14,221,520
1881 ..	.. 9,720,834		

A hundred years ago the duty on spirits was 2*s*. 5*d*. a gallon, but in recent years it has risen to £3 12*s*. 6*d*. a gallon.

The Thomas Street Distillery (formerly George Roe & Co., Ltd.) dates back to 1757, when Peter Roe bought a small Distillery on the site of the present one. The Bow Street Distillery (John Jameson & Son, Ltd.) dates back to 1779 ; the John's Lane Distillery (John Power & Son, Ltd.) to 1791. The two lastly mentioned are "pot-still" distilleries. The Jones's Road Distillery was founded in 1872. The Dublin Whiskey Distilleries Co., Ltd., is an amalgamation of several old distilleries. The Dublin Distilling trade is still in a prosperous condition.

WOOLLENS.

The manufacture of woollens was one of the historic industries of Ireland, from hand-spun and hand-woven cloth, dyed with the lichens and plants—which the Irish peasant has understood how to use from time immemorial—to wool working, as carried on upon a large commercial scale. The minute regulations of the Brehon Laws and the description in the early literature of ornamental textures of various kinds show a considerable development of the industry dating back at least to the eighth century. In 1663 the Duke of Ormonde during his Viceroyalty took energetic measures to foster both the linen and woollen trade, and to develop commercial relations between England and the Continent. He brought over 500 families of skilled workers from Brabant, Rochelle and Jersey. We read that "at Chappel Izod, near Dublin, there were 300 hands at work in making cordage, sail-cloth, ticking and as good linen cloth and diaper of Irish yarn as was made in any country in Europe" (Carte's *Life of Ormonde*).

A flourishing trade sprang up, and an export trade began to attain dimensions which aroused the commercial jealousy of England.

An Act of Charles the First prohibiting the export of Irish wool (manufactured) except to England and Wales, was followed by laying prohibitive duties on the import of Irish woollen goods into England in the reign of Charles II. These Acts together with the devastation wrought by the Jacobean wars brought the Irish export trade very low. In 1697 came the well-known compact between the English and Irish Parliaments in which Ireland had practically to abandon all export trade in woollens, in return for favourable enactments as regards linen goods. The result of this was practically to kill the woollen trade, while its effect on the linen trade was to increase its export trade enormously.

The Irish having lost the export trade in woollens now made efforts to recover it, and the home trade did not flourish. Consequently, when the great era of the development of mechanism set in, the Irish industry, free though it now was, had neither the moral nor the material resources to meet the new situation. Since the full development of this epoch, however, this ancient Irish industry has begun to show considerable recuperative power, and it appears that from 1874 to 1889 the number of power looms employed in the industry increased considerably.

LINEN.

Of the numerous Linen and Cotton factories in and about Dublin, there was in the early part of the nineteenth century a notable one at Ballsbridge (Duffy's).

There were in the latter half of the eighteenth century several linen and cotton printing works. The earliest appears to have been at Drumcondra, where linens and cottons were printed in various designs in colours from copper plates. Similar works were established at Leixlip and Palmerstown. In these works, and others, the products of the factories were used for ladies' dresses, men's waistcoats, chair covers, hangings, screens, etc. The printing and engraving of the plates were executed, when the factories were first started, " by the ablest artists that can be procured at Paris."

POPLIN.

Dublin is the centre of the Irish Poplin Industry. Before the advent of the Huguenots to Dublin at the end of the seventeenth century, there is no record of silk or poplin industry existing in Ireland. Many Huguenots settled in Dublin, and in 1693 we hear of poplin-making in the " Liberties," which was at one time an important part of the city, but which when the refugees took up their residence was already falling into decay. Such, however, was the energy of the Huguenots that the district became a hive of industry, and soon became too small for its inhabitants. New streets were built, and Spitalfields, the Coombe, Pimlico, and Weavers' Square were crowded with poplin makers. The poplin trade increased by leaps and bounds, and the " Liberties " became one of the most prosperous parts of the city. In 1800 the invention of the Jacquard loom revolutionised the silk industry, and did much to help poplin making.

Though most of the silk used in poplin making is of foreign manufacture, the Dublin weavers succeeded in treating it in such a manner as to make Irish poplin a distinct fabric. The beauty of the colour of Irish poplins has been attributed by some to a peculiarity of the Dublin water, but it is much more likely that it is due to the skill and knowledge of the Irish makers. There are four poplin factories in Dublin, the largest employing about 250 people. Sixty per cent. of the poplin trade is stated to be export, and the material is sold throughout the world.

LEATHER AND BOOTMAKING.

Until about fifty years ago the tanning industry in Dublin was in a flourishing condition. Up to about 1870 most of the leather required for use in Ireland, including that used for the " uppers " and soles of boots and that required for harness making, was produced in this country. A notable feature in the manufacture of the leather was that the production on the one hand of sole leather and on the other hand of upper and harness leathers was as a rule a separate undertaking. The same conditions prevail to-day, and outside Ireland it is an unusual thing to find sole, upper, and harness leather manufactured by the same firm. Irish leather was noted for its excellence, which was to be attributed to the superior methods of manufacture. The tanning materials used were those which even now in the light of the most searching scientific examination are considered the best procurable.

In the early 'seventies, however, the erection of immense boot factories in England with modern machinery cheapened production, and the Irish market was flooded with boots and shoes at a price which made successful competition by Irish bootmakers, who did not adopt similar methods of production, impossible.

There is now but one Boot Factory in Dublin, which was built in 1856 for an output of 5,000 pairs of boots per week. Production has, however, fallen in recent years to about half that quantity, with an estimated annual value of £100,000, with a salaries and wages expenditure of over £20,000, and employing about 250 workers.

MILLING.

In reviewing the history of the milling industry during the past fifty years, two salient facts present themselves, a revolution in the process and gradual and constant decline in the industry.

The use of iron rollers instead of stones was first tried in Buda Pesth as far back as 1840, but it was not until between 1875 and 1880 that it was introduced into Ireland. Unfortunately for some manufacturers there were several rolling systems, and information as to the best being difficult to obtain, many adopted a system which was defective. The faulty system was soon found to be worse than the old process, and many millers in different parts of the country were ruined by it, while others after a brief trial reverted to the old means.

Within the area under review there are flour mills at Glasnevin, Grand Canal Street and Hanover Street. One of these concerns has been in the family for five generations. The importation of foreign flour is on the increase, and some of the surplus of English mills comes in at very low prices. The trade is one deserving of support.

Technical knowledge in milling is becoming more necessary, while the rapid improvements in machinery make it necessary that the miller should have a large capital in order to enable him to keep abreast with these improvements, and to meet foreign competition.

SOAP AND CANDLE MAKING.

The manufacture of soap has been carried on in Dublin for a period of over 200 years. There are about 600 hands employed in this industry in Dublin at present, and it is a slowly-growing one, which only requires support to increase threefold. In the candle-making industry there are about six factories working, employing about 200 hands.

PRINTING.

As far as at present known printing was introduced into Ireland in 1550, when Humphrey Powell was sent over by Edward VI. to establish printing in Dublin. It is a comparatively large industry now in Dublin, and the factories are equipped with the most up-to-date machinery. The greater part of the trade is for local requirements.

PAPER.

The manufacture of paper is an old industry in Dublin. As far back as 1795, mills for the making of paper were carried on. There are several mills now working within the area under review.

MUSICAL INSTRUMENTS.

The art of pianoforte manufacture flourished in Dublin some hundred years ago. Harps and Spinets were manufactured in Dublin in the eighteenth century. In this trade foreign competition is overwhelming, and the recent musical instrument import duty has prevented the partial manufacture of pianos now. At present a small amount of bag-pipes, drums and flutes are made here.

SHIPBUILDING.

Early in the nineteenth century shipbuilding was an extensive and flourishing industry in Dublin.

In 1812 there were five shipbuilding yards in operation, but shortly afterwards the industry became practically dormant until 1902, when the Dublin Dockyard Company was formed in an effort to revive it. Upon this latest venture labour disputes have had a discouraging effect.

HOSIERY.

Although Balbriggan is actually outside the area under review, it is impossible in considering native industries in the county to omit reference to this one. In 1740 it began as a cottage industry, but in 1780 the factory at Balbriggan absorbed all the small concerns, concentrating them into one establishment. The industry advanced by leaps and bounds, and the demand for Balbriggan hosiery became almost universal. The industry at Blackrock upon the same lines is also making satisfactory progress.

BELL-FOUNDING.

This is one of the oldest of Irish industries. The first Christian bell-founder in Ireland of whom there is any authentic record was St. Asicus, described as " Priest and Bell-founder," who was consecrated first Bishop of Connaught by St. Patrick (A.D. 448).

More than 100 years ago Dublin was celebrated for the quality of bells produced, and many bells and chimes cast in Dublin have a world-wide reputation for their musical qualities and rich mellow tones.

The largest bell-foundry in Ireland is still a prosperous concern, and is situated in James's Street, Dublin.

In the seventeenth and eighteenth centuries the names of several bell-founders occur. They were all English. William, Roger and John Purdue, who came from Salisbury, did a good deal of work for churches. Bells by them were cast for St. Patrick's, 1670, and for Kilkenny and Limerick Cathedrals. Associated with them was Tobias Corry, who cast bells for Limerick and Galway. William Purdue was buried in Kilkenny, with this epitaph :—

> " Here a Bell-founder, honest and true
> Till the Resurrection lies Purdue."

Henry Paris [perhaps Irish] cast bells for St. Audoen's, 1694; St. Patrick's, 1695; and Kilkenny, about 1670. Richard Wilson did bells for St. Audoen's, 1732. John Kipling, from Portsmouth, was employed at St. Patrick's.

GLASS.

The manufacture of glass held a high place as an Irish industry during the half-century of which the Union was the centre period. So great was the stimulus to the industry given by the removal of the export duty on Irish glass in the latter part of the eighteenth century, that Irish, and particularly Dublin, manufacturers did a large export trade with the Continent and America in glass of every variety.

It is believed that the repeal of the excise on Glass in Great Britain in 1845 accounted among other reasons for the decline in the Irish glass industry, and no window glass is made in Dublin now.

In 1853 the manufacture of bottles had been successfully introduced into Dublin, an industry carried on to the present time by several firms, and principally at Ringsend.

BISCUITS AND CONFECTIONERY.

Although this is an industry which only grew up in the last century, it is entitled to a very prominent place among the industries carried on in Dublin.

In 1851 the late Mr. William B. Jacob added biscuit making to the already extensive business of bread making and flour milling, which he carried on in Waterford. After a short experience in his new venture he decided to concentrate all his energies on the development of this trade, and in 1853 moved his works to Dublin.

From the first the enterprise was a success. Jacob's biscuits and other products are exported to all parts of the world, and a magnificent factory is situate in Bishop Street. The value of the exports of this firm amounts to about £1,000,000 per year. Regular employment is given to about 3,000 hands.

FERTILISERS.

The manufacture of fertilisers is an important industry in Dublin, and a considerable export business is done.

TOBACCO.

Some twenty years ago the manufacture of cigarettes was unknown in Dublin, but in recent times these have also been made in the city, and the consumption of Irish cigarettes has enormously increased. There are now over a dozen factories in the city, with a wages expenditure of about £100,000 per year. In the year 1921 Irish-made cigarettes and tobacco were exported to the value of £1,611,974. No more recent figures are available.

FURNITURE.

Until 1875 the manufacture of household furniture was an important industry in Dublin, giving constant employment to a large number of skilled tradesmen. Dublin was famous for its cabinet making, and the decline in this industry appears to be due to the trade passing to the large commercial houses, and the cheapening of production by machinery. A limited amount of furniture is still made in Dublin.

STAINED GLASS.

It is only within the last forty or fifty years that any serious attempt has been made in Dublin to produce stained glass of a really artistic and craftsmanlike kind, but the progress has been remarkable, and it may be said that the stained glass windows produced in this city are well able to take their place with the productions of any city in the world. There are several notable firms engaged in the trade.

VESTMENT, ALTAR REQUISITES, ROSARY BEADS.

An enterprise closely allied with ecclesiastical sculpture and art is the making and embroidering of designs suitable for vestments and altar linens.

The production of altar candles is another industry, and the oldest firm engaged in it in Dublin claims to date its establishment from the fifteenth century.

The making of rosary beads is another Dublin industry exporting the beads to every quarter of the civilised world. The origin of this industry is interesting. An Englishman, Patty, wishing to find if anyone in Ireland worked in horn, came in contact with the last of the comb makers living in Dublin. He suggested that rosary beads should be made of Irish horn, and after a series of experiments it was proved to be a suitable material for the purpose.

MARBLE AND STONEWORK.

Marble work of the eighteenth century was confined chiefly to chimney-pieces, many of which in the "Adam" style adorned the Georgian houses of that period. Marble work of to-day in Dublin is mostly confined to Church equipment and memorials. Several notable firms in the city are engaged in this trade, which, however, has been declining since church building in the country practically ceased some fifteen years ago.

BICYCLES.

The principal factory in this industry is in Pleasants' Street, which is well equipped, and employing about 200 hands. Associated with this factory is a branch for the manufacturing of tin plate.

CUTLERY.

Dublin is the first place in the British Isles in which cutlery was made. It was started by twenty-five Huguenot refugees, who were induced ultimately to settle in Sheffield. It was a considerable industry, and has been revived during recent years, when in 1908 an industry was established in Merchants' Quay. The present employment is about thirty hands. With adequate support from the public this industry is capable of large development.

MINERAL WATERS.

As far back as 1773, in Liffey Street, mineral water making was started in Dublin, and it is now in a prosperous condition in the city. In 1779 the making of soda water was begun. There are ten concerns of the kind in the city. During the year 1921 the Dublin firms exported 7,155 cwts., and the failure of sugar supplies and shipping facilities during the War nearly ruined the exports. Employment in this industry is at present given to about 700 hands. There are several notable firms in Dublin engaged in this trade, who possess up-to-date equipment, Thwaites being the inventors of soda water.

PLASTERING.

Since the early part of the eighteenth century Dublin has been noted for its plaster work. Fine examples are still to be seen in many houses of that period.

Although moulded plaster work was introduced by Italians, the art was quickly taken up by Dublin men. All classes of plastering work is carried out in Dublin, and fibrous plaster is extensively manufactured.

BRUSH-MAKING.

For over a hundred years brush-making has been carried on in Dublin, and was begun by the Huguenot refugees. Up to sixty years ago South Great George's Street was its centre, and was spoken of as a "street of brushmakers." The trade is one of the most complicated known, and Dublin is recognised as being the best centre in the Three Kingdoms in which to purchase brushes of all kinds. The largest concern of the kind now in the city is situate in Talbot Street, which started in 1858 with twelve hands, and now employs over 350 hands.

PUBLIC MARKETS.

The municipal area of Dublin is well furnished with public markets, but none exist within the ambit of the urban districts.

The cattle market, of about 9½ acres in extent, situated on the North Circular Road, unfortunately in one of the best residential districts of the north city, is reputed to be the largest cattle market in the world. Dublin, situated midway on the east coast and close to the rich grazing hinterland of the counties of Meath, Westmeath, and Kildare, is ideal as a natural outlet for this trade with Great Britain. This market came into existence about the year 1863, having been transferred from Smithfield, and now it serves the demand of over 200 cross-Channel buyers.

The accommodation provides for roughly 6,000 head of cattle, 16,000 sheep and 1,500 pigs, and the returns for the year ending March 31, 1922, showed an average number of cattle on show weekly of 4,680; 8,472 sheep and 1,000 pigs. The complete returns for the year 1923 are as follows :—

Fat Cattle ..	.. 231,603	Sheep ..	.. 440,588
Dairy Cattle ..	.. 11,969	Pigs ..	.. 52,817
Calves ..	.. 2,938		

The volume of trade during the autumn on a single market day has been valued at £500,000, and in the years of the War it rose to about £1,000,000. The growth of the trade within the last fifty-six years is indicated by the following figures :—

YEAR	Cattle	Sheep	Pigs
1868	88,863	301,283	—
1886	120,647	291,769	34,474
1923	243,572	440,588	52,817

The Dublin Corporation has done all in its power to foster this trade by providing first-class accommodation, and charging only the minimum tolls. The revenue from tolls and rents now yields the Corporation about £17,000 per year. In 1883 the area of the market was enlarged, improved and re-paved, but still further enlargement is now necessary.

The high transit costs in Ireland have tended to reduce the trade in cattle bought for fattening in the neighbouring counties, and have a detrimental effect on the market generally. An extensive auction business in store cattle has been developed by independent salesmasters during the last twenty years, and in these lairages an average of 1,000 store cattle are sold each week. In order to obtain quick sales there has been a tendency in the market during the last ten years to exhibit half-fattened cattle, and if this was allowed to develop it would ruin the reputation of the market.

The cattle trade is the outstanding feature of the Irish agricultural industry, as official statistics easily prove. The Port of Dublin exported in two quarterly periods of the year 1921 :—

Cattle, 95,486 ; Sheep, 60,538 ; Pigs, 2,807.

The possibilities of the dressed meat industry must be investigated in face of these facts. In order that an Irish dressed meat industry with its subsidiary trades should succeed, the following conditions are necessary : Expert direction, adequate capital, suitable transport facilities, and a market sufficiently extensive to absorb the quantity of meat exported. As a source of employment for both sexes it has great possibilities, with good wages, regular employment, and hygienic conditions of labour.

The fruit and vegetable market in Mary's Lane and St. Michan's Street has an extent of about 5,500 square yards, and is a handsome building, which badly needs extension. It has been proposed by the Corporation in recent years to increase its area by about 4,000 square yards. It is badly congested on market days, and is approached by very narrow thoroughfares. A separate building is devoted to the sale of fish in St. Michan's Street. The site of these markets is not suitable. Adjoining is a potato market and an old clothes market, housed in temporary buildings.

The Smithfield Market is situated between North King Street and Arran Quay, and includes the horse market. It comprises a large well-paved open space of about 4½ acres. Hay, straw and horses are sold here.

The Iveagh market has an extent of about 1 acre 7 perches, and is a handsome building, situated in Francis Street. It is devoted to the sale of fish, fruit, vegetables and old clothes. It contains a public wash-house and disinfecting house. It is the gift to the Corporation of Lord Iveagh, and is of the most modern design and construction.

EMPLOYMENT IN VARIOUS TRADES.

It has been found impracticable for this survey to provide a detailed analysis of employment given in various trades within the area, owing to the absence of official statistics. A table is, however, appended showing the average employment at present in insured trades, under main industrial groups in the area covered by the operations of the Dublin Exchange.

MAIN INDUSTRIAL GROUP.	Men.	Boys.	Women.	Girls.	TOTAL.
Building Trade and Works of Construction	9,199	298	176	31	9,704
Distributive Trades	6,987	996	3,320	873	12,176
Food, Drink and Tobacco	8,055	1,020	4,220	2,158	15,453
Railway Service, Fishermen, Warehousemen, etc.	9,750	489	304	22	10,565
National and Local Government Services	3,882	292	1,620	295	6,089
Shipbuilding, Engineering Trades and Iron Foundry	5,052	321	191	25	5,589
Tailoring, Millinery, Boot and Shoe	2,183	213	2,928	757	6,081
Hotel, Restaurant, Club, etc., and Laundry Service	1,726	175	3,931	696	6,528
Textiles	595	206	738	109	1,648
Public Utility Services	2,583	27	287	16	2,913
Commercial, Clerical, etc.	1,504	170	817	100	2,591
Sawmilling, Furniture, and other Wood Working	1,317	170	343	49	1,879
Paper Making, Stationery, Printing, etc.	1,538	305	1,423	344	3,610
Construction and Repair of Cycles, Motors, etc.	848	126	102	6	1,082
Coal, Iron and other Mining and Quarrying	441	17	176	3	637
Ammunition, Chemicals, Explosives, etc.	1,100	139	507	128	1,874
Iron and Steel and other Metal Manufactures	1,113	175	224	27	1,539
Professional Services	417	41	303	21	782
Other Industries and Services	3,445	152	838	286	4,721
TOTALS	61,735	5,332	22,448	5,946	95,461

THE PORT OF DUBLIN.

The history of the Port of Dublin dates from about 1707, when a Committee of the Dublin Corporation was given powers by Act of Parliament, and acted as the port authority until 1786. In the latter year a new control was established, and finally in 1867 the Dublin Port and Docks Board was established.

The capital of the Irish Free State is, from its geographical position, the natural port for the distribution and collection of merchandise for the whole of Ireland, and is very conveniently placed for distribution to the English midlands.

The port has three natural water feeders—the Liffey, the Dodder and the Tolka, as well as the canals, and is capable of almost unlimited expansion. It has greater natural advantages than the port of Belfast, but these are of themselves not sufficient in modern times to maintain the supremacy of a port.

There is an easy entrance to the harbour, well buoyed and lighted, the entrance to the river being between North Bull Lighthouse and Poolbeg Lighthouse, the channel from the bay to the city having a depth of 30 feet at h.w. spring tides, and 28 feet at h.w. neap tides. Ordinary spring tides here rise 13 feet over standard l.w. of the port, which is 1·43 above ordnance datum.

There is at present ample berthage for vessels on the north and south quays drawing up to 22 feet, and in the Alexandra Basin drawing up to 26 feet. Improvements in this basin are now in progress which, when completed, will admit vessels drawing up to 35 feet.

The north quays and Alexandra Basin have direct communication with the main railways of the country.

At the north-quays extension the foreign trade is specially catered for, and improvements here are under consideration.

The port is provided with a service of electric cranes, including one of 100 tons lifting capacity, which is a landmark in the neighbourhood.

Facilities are available for the repairing of ships with a graving dock to accommodate vessels 350 feet long, and two graving slips able to take vessels of from 200 tons to 900 tons weight.

As stated, the north quays and Alexandra Basin have railway communication, and plans are under consideration for dealing with the southern quays, and the connection of the two sides of the river by a transporter bridge. It is believed that this scheme would involve a suspension bridge across the Dodder and other difficulties, and cost about £200,000. As an alternative it has been suggested that an under-river tunnel should be constructed, which in addition would carry the electrical cables from the municipal works, and provide convenience for port labour, as well as eliminating the necessity of the North Wall electric works.

The Custom House Docks provide wharves for the coal trade, and possess extensive warehouses and stores. They will need development in the near future to cope with the new customs system, and possibly the advent of passenger and mail steamers to the Liffey.

On the north side of the Alexandra Basin the new Alexandra Wharf is now in course of construction, as already referred to, and behind this is about 50 acres of reclaimed land, where several large premises have been erected in recent years. In addition, on the east side a large area of about 55 acres is now in course of reclamation, which when completed will provide sites for numerous factories.

The total revenue of the port from all sources in the year 1922 was £228,749, and its progress can be gauged from the fact that in 1866 it was £62,684, and in 1910, £99,707.

Pressing necessities are the widening of the quays, especially the north quay, and the provision of some form of cheap transit thereon to meet the increasing demands of the port.

A table is appended of Imports and Exports in recent years.

GOODS.		IMPORTS.				EXPORTS.			
		1908.	1914.	1920.	1923.	1908.	1914.	1920.	1923.
Aerated Waters	Tons	796	211	200	427	3,704	3,704	634	330
Ale, Beer and Hop Bitters	,,	16,813	17,827	4,381	4,091	593	192	35	23
Apparel	,,	1,211	1,252	967	1,117	341	224	216	95
Apples and Pears	,,	2,960	2,139	2,022	5,254	13	165	169	10
Bacon	,,	21,132	13,980	9,997	16,628	5,815	8,335	2,473	5,042
Barley (Raw)	,,	28,180	14,441	50,186	11,776	679	726	6,606	2,774
Basic Slag	,,	7,751	12,699	16,610	12,796	14	—	3	8
Bedsteads	,,	764	784	591	1,409	31	18	13	—
Beef and Mutton ..	,,	2,924	3,325	393	368	231	5,114	248	307
Biscuits	,,	922	1,232	936	537	13,541	15,976	11,285	9,122
Boards (Flooring) ..	Loads	13,387	20,425	22,416	15,313	17	445	61	73
,, (Mill)	Tons	1,510	2,256	1,894	2,071	48	12	2,817	129
Bottles	,,	3,623	4,969	3,082	4,248	1,252	907	942	408
Bran and Pollard	,,	12,312	11,907	8,680	4,471	987	423	9	593
Brandy	,,	432	332	398	265	41	324	21	20
Bricks	,,	14,109	10,844	3,331	4,158	8	9	—	—
Butter	,,	1,100	1,334	28	2,744	8,634	8,264	3,021	5,500
Candles	,,	1,454	1,843	1,620	2,502	78	57	76	71
Carbide of Calcium ..	,,	—	—	—	—	—	—	—	—
Carriages, Motor Cars ..	No.	1,243	2,299	221	152	903	891	50	16
Cattle	,,	384	145	21	694	332,142	555,055	316,875	240,862
Cattle Foods	Tons	7,480	6,130	4,483	4,111	427	70	19	17
Cement	,,	39,720	42,459	35,162	45,572	9	311	6	113
Cheese	,,	578	1,026	498	788	28	35	1,684	119
Coal	,,	1,088,380	1,145,777	173,423	1,118,455	80	38	53	85
Cocoa	,,	455	1,036	1,607	1,466	15	40	444	14
Coke	,,	9,173	6,781	1,532	1,245	—	—	—	—
Confectionery	,,	2,515	3,405	3,832	5,429	344	142	140	244
Corks	,,	536	713	508	399	32	24	12	10
Cotton Goods	,,	3,513	3,369	1,592	2,464	63	80	106	29
Cotton Seed Cake ..	,,	3,339	3,296	340	918	20	16	9	63
Cotton Seed Meal ..	,,	5,323	4,863	966	1,342	4	—	—	288
Creosote..	,,	303	1,171	93	298	—	30	—	—
Deals	Loads	42,476	27,189	19,477	32,215	604	1,105	4	5
Drugs and Chemicals ..	Tons	1,460	2,029	2,482	3,031	163	166	88	127
Earthenware	,,	2,981	3,581	2,591	2,734	81	65	24	33
Eggs	,,	594	252	596	587	18,228	21,159	19,341	17,548
Empty Bags	,,	2,716	2,485	2,566	1,864	2,574	3,330	2,102	1,454
Empty Boxes	,,	39,258	52,345	70,513	50,414	13,755	15,633	7,936	7,584
Engines (steam)	,,	704	540	800	197	25	61	64	21
Farming Implements ..	,,	1,642	2,302	2,310	703	59	41	164	114
Felt	,,	493	598	185	357	5	5	5	1
Fireclay Goods	,,	2,725	2,197	1,029	1,980	2	2	—	2
Fish (Dried)	,,	611	601	231	853	898	128	285	7
Fish (Fresh)	,,	2,627	2,765	1,588	2,566	2,285	3,105	2,798	670

GOODS.		Imports.				Exports.			
		1908.	1914.	1920.	1923.	1908.	1914.	1920.	1923.
Fish (Preserved)	Loads	354	613	518	870	49	15	42	16
Flax (Seed)	Tons	3,305	1,323	3,858	1,556	89	21	32	313
Flour	„	50,188	53,049	81,602	68,550	1,683	1,202	76	2,610
Fowl	„	594	204	8	1	4,643	4,399	1,826	2,210
Fruit (Dried)	„	2,245	2,976	3,084	3,673	47	16	19	8
Fruit (Green and Preserved)	„	4,519	5,583	2,458	4,454	64	89	170	47
Furniture (New)	„	1,560	1,382	947	1,466	397	320	749	102
Furniture (Old)	„	724	789	826	1,062	941	1,185	1,299	2,096
Glass	„	3,772	3,525	2,988	3,246	154	116	33	58
Glucose	„	606	727	306	1,473	—	—	1	11
Grains	„	35	552	42	30	9,966	9,871	5,739	5,492
Grapes	„	421	347	34	635	2	—	—	3
Grease	„	803	660	429	598	2,117	2,762	507	492
Groceries	„	1,342	1,114	1,629	1,764	288	103	101	170
Guano	„	15	6,971	123	3,168	123	636	—	—
Gypsum and Plaster of Paris	„	2,588	2,705	2,822	2,684	11	1	1	11
Haberdashery, Drapery, etc.	„	4,008	5,203	1,899	2,771	329	288	190	233
Hams	„	780	366	121	1,268	473	391	11	117
Hardware	„	3,612	3,198	2,849	3,674	748	625	243	256
Hats	„	343	272	163	269	9	5	2	7
Hay, Straw	„	203	978	—	—	789	360	4,415	22
Herrings (Salt)	„	489	263	73	37	20	168	59	—
Herrings (Fresh)	„	1,051	471	132	444	533	1,217	56	5
Herrings (Smoked)	„	207	216	50	21	—	9	18	—
Hides and Skins	„	57	55	81	75	4,426	5,333	4,890	4,892
Hops	„	3,177	4,704	6,964	3,935	1	3	—	1
Hosiery	„	401	412	206	565	46	45	29	19
Horses, Mules, Asses	No.	2,232	1,980	500	626	9,209	8,766	4,251	5,812
Ice	Tons	1,726	3,501	—	—	22	2	—	1
Indian Corn	„	50,877	55,703	48,324	36,997	8,664	11,544	613	1,175
Iron (Bolts)	„	1,412	1,172	1,122	1,005	11	13	9	3
„ (Castings)	„	8,604	5,758	3,176	2,485	285	154	54	97
„ (Hoop)	„	114	391	707	842	1	—	19	3
„ (Nail Rod)	„	6	3	—	—	—	—	—	—
„ (Ore)	„	11	205	81	56	—	195	30	—
„ (Pig)	„	1,030	1,756	696	993	—	715	—	—
„ (Plate and Sheet)	„	4,820	5,715	3,704	2,568	62	204	46	17
„ (Scrap)	„	109	37	94	326	12,195	15,342	16,423	18,141
„ (Wrought)	„	12,709	14,541	12,175	13,877	613	426	532	—
Jute	„	3,880	2,705	2,026	1,959	—	33	4	—
Kainit	„	3,154	4,983	4,603	5,049	12	34	—	—
Lard	„	810	431	242	383	226	256	871	1,411
Lead	„	1,545	1,561	1,850	1,422	464	692	690	451
Lead (Piping)	„	185	203	105	99	53	23	3	18

GOODS.		IMPORTS.				EXPORTS.			
		1908.	1914.	1920.	1923.	1908.	1914.	1920.	1923.
Leather	Tons	776	970	841	993	45	69	148	45
Lemons	"	512	400	322	499	4	2	2	—
Limestone	"	661	1,146	1,185	17	12	8	153	25
Limestone (Shingle) ..	"	1,426	1,349	863	541	—	—	—	—
Linen	"	1,070	281	24	36	848	450	165	39
Linseed Cake	"	8,676	9,688	6,858	6,354	97	9	—	15
Linseed Meal	"	229	329	721	1,592	37	9	—	16
Machinery	"	5,670	5,514	4,813	6,254	938	736	906	541
Mahogany	"	260	240	352	409	3	1	—	4
Malt	"	40,386	66,337	21,697	13,497	4,097	3,371	2,491	1,187
Malt Combings	"	3	—	3	—	672	1,329	1,173	511
Manure (Artificial) ..	"	12,224	15,560	3,874	2,629	20,611	22,675	2,337	6,141
Marble	Tons	664	525	325	505	82	37	42	30
Margarine	"	1,314	1,945	2,682	1,998	1,042	134	147	62
Matches	"	493	671	399	315	36	52	64	100
Meal	"	4,357	8,904	9,695	9,731	2,929	3,190	3,560	2,149
Meat (Coarse)	"	1,542	2,221	202	96	1,030	1,261	352	173
Meat (Preserved)	"	151	203	540	511	91	56	26	34
Milk	"	501	667	1,436	1,275	3,882	6,677	1,701	897
Mineral Waters	"	984	659	276	384	93	208	51	43
Molasses, Treacle and Syrup	"	1,908	1,256	2,293	930	56	44	25	9
Nails and Screw Nails ..	"	1,938	1,919	2,156	2,077	33	36	13	20
Oars and Spars	No.	2,307	5,459	1,236	2,109	—	20	14	—
Oats	Tons	6,732	6,658	3,590	6,594	2,145	4,556	11,016	1,130
Oil (Petroleum and Paraffin)	"	40,315	19,552	24,458	32,037	5,313	4,453	3,469	4,770
Oil (Motor Spirit) ..	"	—	8,225	23,677	30,774	—	233	2,023	1,605
Oil (all others)	"	11,962	13,467	10,356	17,352	1,014	686	481	421
Oil Cloth	"	799	871	694	1,168	15	14	3	9
Onions	"	2,892	2,805	3,164	3,473	13	12	6	50
Oranges	"	2,769	2,573	1,663	5,004	8	2	3	14
Paint	"	2,295	2,275	2,232	2,368	152	38	21	20
Paper (all kinds)	"	18,770	21,207	21,610	19,649	4,454	5,259	1,923	3,848
Periodicals and Newspapers	"	1,281	1,179	533	827	203	370	295	180
Phosphate Rock	"	49,796	56,128	65,586	29,524	3,035	410	2,352	189
Pianos	No.	1,153	1,122	415	1,095	181	161	119	89
Pigs	"	5	3	3	—	219,213	64,688	67,737	116,747
Pipes (Sewer)	Tons	100	3,650	671	557	2	1	—	—
Pitch	"	802	918	726	764	2,760	659	418	491
Pork	"	7	15	2	34	240	508	31	417
Porter	"	521	709	250	3,245	185,387	260,596	374,457	267,414
Potatoes	"	4,359	3,764	553	2,864	739	1,169	5,342	295
Preserves..	"	2,647	3,557	4,215	2,737	30	34	32	62
Rabbits	"	80	105	27	3	1,667	1,355	749	1,831
Railway Plant	"	9,349	6,011	12,396	4,226	84	26	1,884	—
Railway Sleepers	Loads	6,533	3,140	2,130	4,752	357	122	53	—

GOODS.		Imports.				Exports.			
		1908.	1914.	1920.	1923.	1908.	1914.	1920.	1923.
Rags	Tons	758	549	190	252	2,241	2,960	1,991	1,100
Rye	,,	4,595	2,181	2,996	246	2	25	3	—
Salt	Tons	7,543	8,195	10,907	10,773	64	47	3	13
Salt Cake	,,	649	1,039	533	85	2	—	—	—
Salt Rock	,,	—	254	258	790	—	10	3	—
Seed (Grass)	,,	647	863	166	192	190	21	85	17
Seed (Other)	,,	1,098	1,164	1,060	798	83	286	—	64
Sheep	No.	10,359	2,937	111	1	362,310	264,409	259,783	168,179
Shell Fish	Tons	60	65	—	7	2,668	1,627	408	618
Shoes and Boots ..	,,	3,247	3,508	2,693	3,274	75	69	93	109
Slates and Slate Slabs ..	,,	6,565	7,730	7,227	4,827	92	14	1	62
Soap	,,	2,538	3,012	3,286	3,755	418	468	310	148
Soda	,,	4,949	4,331	3,891	3,462	30	19	1	4
Spokes and Felloes ..	,,	7,636	71,707	3,325	—	32,628	21,707	47,222	6,579
Starch	,,	878	847	583	670	9	10	1	9
Stationery	,,	1,359	1,296	1,033	855	447	524	350	278
Staves	,,	3,811	2,759	3,669	751	442	690	175	41
Steel	,,	2,030	5,887	8,144	2,675	36	175	170	342
Stones (Paving, Curb, Granite and Sets).	,,	3,333	4,304	3,049	558	38	37	46	35
Stones (Broken)	,,	522	1,806	2	21	—	3	—	—
Sugar	,,	33,140	34,478	27,998	34,607	369	70	15	58
Sulphur Ore	,,	18,746	30,393	27,374	8,192	—	250	530	—
Tallow	,,	404	439	235	635	223	650	256	255
Tea	,,	5,659	6,388	6,515	8,394	84	51	18	75
Tiles (all kinds)	,,	3,224	2,578	1,216	1,888	14	9	9	5
Timber	Loads	14,516	11,029	8,470	12,213	30,751	16,016	13,280	5,138
Timber (Wrought) ..	Tons	1,266	1,566	2,078	1,025	334	574	322	178
Tobacco	,,	2,343	2,424	2,352	4,977	448	211	264	25
Toys	,,	363	265	468	685	12	25	34	20
Turf and Peat Litter ..	,,	194	279	1	387	336	2,084	247	74
Vegetables	,,	414	223	157	960	2,313	1,570	649	107
Wax (Paraffin)	,,	1,455	1,155	1,549	2,220	16	18	4	2
Wheat	,,	118,043	132,954	168,579	108,772	2,317	2,342	553	738
Wheels, Coach and Car ..	,,	1,913	6,432	1,381	1,992	3,487	3,800	2,539	303
Whiskey	,,	1,092	923	758	817	10,116	6,405	5,913	3,501
Wine	,,	3,839	4,163	5,976	4,162	1,760	1,597	991	661
Wire (Iron)	,,	1,473	1,508	1,935	2,164	28	26	24	17
Wool	,,	444	316	321	315	3,600	5,334	2,207	5,485
Wood Pulp	,,	769	2,442	3,047	69	—	12	357	170
Woollens	,,	579	487	622	871	573	569	513	196
Yarn : Linen, Woollen, Cotton	,,	856	929	586	458	162	209	107	47
Yarn (Coir and Jute) ..	,,	420	174	242	120	897	1,009	399	388
Yeast	,,	206	232	88	253	1,752	1,376	390	665

According to the most recent statistics available, *i.e.* August, 1914, the number and net tonnage of vessels arriving and departing with cargoes (with ballast not included) at the Ports of Dublin and Dun Laoghaire during that month were as follows :—

	Arrived.		Departed.	
	Vessels	Tons.	Vessels.	Tons.
Dublin	493	206,088	224	105,691
Dun Laoghaire	13	2,144	2	468
Dun Laoghaire (Mail Boats)	65	90,598	64	89,210

ADVERTISEMENTS.

The municipal area of Dublin, and in some respects the wider area embraced within the urban districts, suffers to an increasing extent in its amenities from unsightly public advertising. While a limited amount of such advertising is permissible when under proper control, its present form and widespread nature is undoubtedly a blot upon the city. The building frontages in important thoroughfares are in some cases rendered cheap and squalid looking, and even in Sackville Street (O'Connell Street) traders have not hesitated to adopt these methods in the case of new and comparatively handsome buildings. The Corporation has endeavoured in this street to confine business names and advertisements on frontages to gilt lettering, but its powers are inadequate, and there is a reluctance on the part of the community to co-operate.

The disfigurement of residential neighbourhoods by the erection of unsightly hoardings, and the inadequate powers of the local authority for regulating these eyesores ought to be dealt with without delay. The provisions of the Advertisement Regulation Act, 1907, are so limited in their application that they are almost a dead letter. The powers under this Act should be extended to all local authorities irrespective of population, and special districts should be allocated for this purpose, as well as the heights of these hoardings and their relative sites. The cinema trade is responsible for some of the most vulgar of these poster advertisements within the urban areas.

Street trading in the city area within recent years has amounted to a public nuisance, and it is on the increase. In 1923 the Chief Commissioner of Police submitted Street Trading Regulations to the Corporation of Dublin, but they were not favourably received by that body. The regulations now appear to be completely inoperative, as the citizens show no indication of co-operation. The only remedy would be for the Police to obtain powers to abolish all street trading, and the Corporation to obtain power to establish and let street kiosks such as are seen in continental cities. Three good results would thereby be secured : the street pavements would be cleaner, there would be direct control, and a new source of revenue. As the sites of these kiosks would be specially selected, footpath obstruction would be eliminated. Some of the municipalities in England are already proceeding on these lines.

EXISTING POWER AND LIGHTING SERVICES.

The principal source of power and light within the municipal area is electrical energy generated at the main electrical station of the Dublin Corporation situated at Pigeon House Fort, Dublin Harbour. The electrical system in Dublin is the three-phase alternating; generation and transmission voltage 5,000; distribution from sub-stations 200 volts for lighting and 346 volts for power. The length of the electrical mains is 123 miles, which extend to all the principal parts of the city and suburbs. The subsidiary station is situated in Fleet Street, and there are many sub-stations throughout the city. There is a great deal of scope for future development in electricity supply to Dublin and district, at present only about 80 units of electricity per head of population are used, whereas in small continental cities, such as Zurich, in Switzerland, 600 units per head is used. There is a great need of unification of power sources in the Dublin area.

In the Urban District of Rathmines an electrical service is available, with an existing station having a capacity of 1,150 kwts. An extension to this station, now nearing completion, will provide an additional 400 kwts. The system of supply is the direct current three-wire system. The voltage for lighting is 220, for power 440.

In the Urban District of Pembroke an electrical service is also available, but no particulars have been vouchsafed.

In the Urban District of Dun Laoghaire an electrical service has just been installed.

There are no electrical services in the Urban Districts of Blackrock, Dalkey, Killiney or Howth.

The Alliance and Dublin Consumers Gas Company provide a gas service for power and lighting within the whole municipal area, and within the Urban Districts of Rathmines, Pembroke Blackrock, Dun Laoghaire, Dalkey and Killiney, with gas works at Ringsend and Dun Laoghaire

THE CHAMBER OF COMMERCE.

The Dublin Chamber of Commerce was established in 1783, and is one of the oldest in existence.

The objects for which the Chamber is established are:—

To promote the commercial, manufacturing, shipping and carrying interests of the city of Dublin, and to take cognizance of and investigate such matters as (affecting the commerce, manufactures, shipping and carrying trade of Ireland generally) must necessarily influence those of the Metropolis.

To appeal and represent or advocate before any court, council, commission, body corporate or person in authority the views or interests of the association, in relation to or in connection with any matter in anywise affecting or concerning the trade, commerce, manufactures or shipping of the city of Dublin.

To hold communications with the Ministers of the Irish Free State and other officers of the Government, the Members of Parliament, and other persons of high station and authority, and to correspond and confer with similar associations and with individuals for the attainment of the objects of the association.

To petition Parliament on any matter affecting the trade, commerce, manufacture, shipping or carrying trade of the country.

To promote Parliament Bills in the interest of trade, commerce, manufactures, or shipping, and to watch and to oppose measures which, in the opinion of the Association, are likely to be injurious to those interests.

To maintain a library and reading-rooms for the use of the members of the Association, and such other persons as shall be admitted thereto, pursuant to the Regulations of the Association.

To do all such other things as may be incidental or conducive to the attainment of the above subjects or any of them.

The Chamber has a large membership, and is governed by a Council and Committee devoted to the development of its several objects. The annual reports of the body are valuable for reference, and are available.

INDUSTRY AND COMMERCE MAP.

Explanatory Note.

The scale of the original Survey Map is 25 inches to the mile.

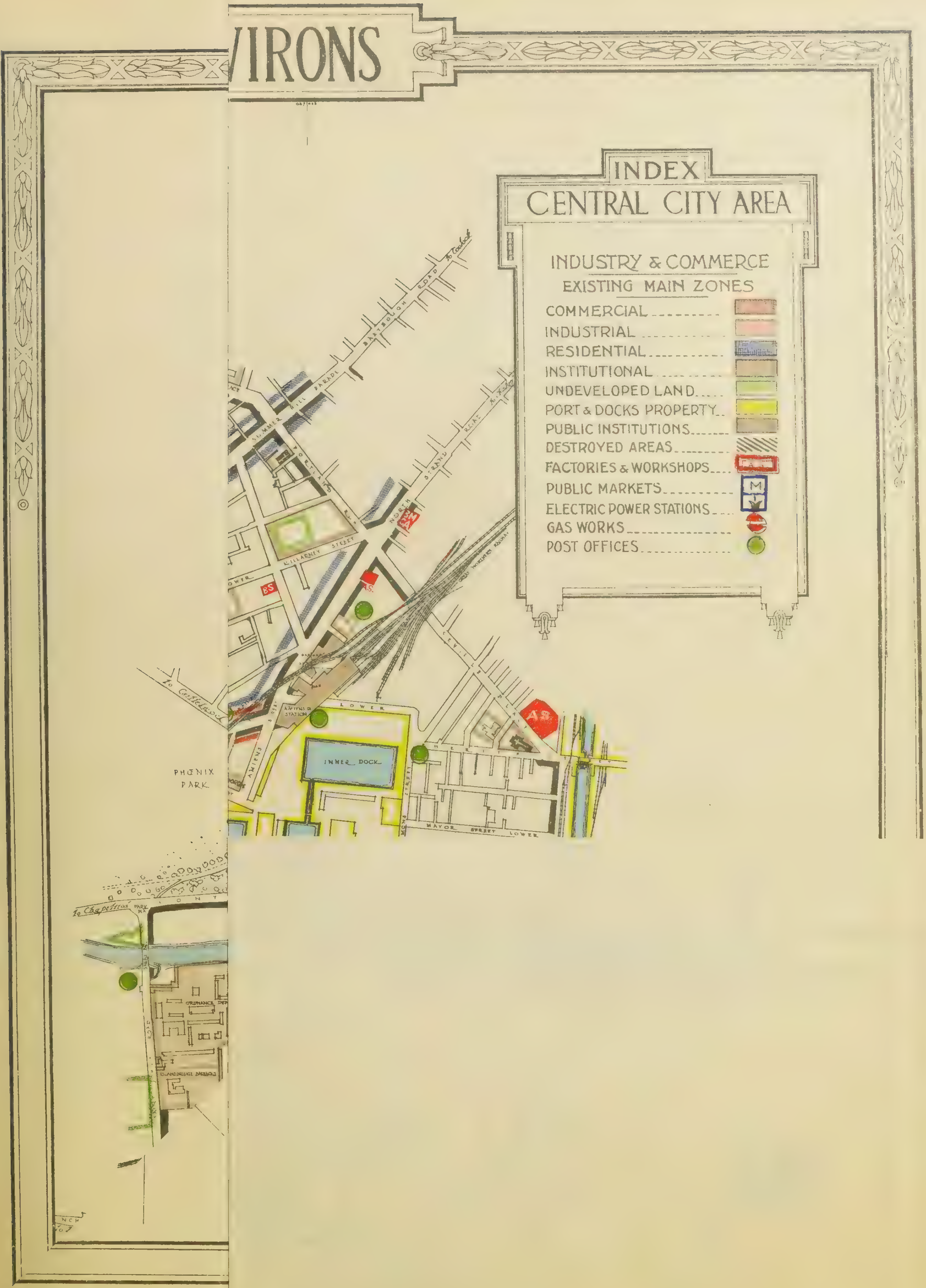
This Map shows the city divided by tints into existing zones, the industrial areas pink ; the commercial, brown ; institutional, grey, and the zones outlined in blue, residential.

It will be seen that a large area on the north-west side is taken up with institutions, thus preventing any further development in that direction.

The red denotes sites of factories and workshops, and it is apparent that there is no organised grouping of of these into suitable areas, and that they are scattered over the whole of the central portions of the city, including the residential quarters.

The blue tint shows the sites of the public markets, the yellow discs represent the Post Offices, electric power stations, and gas works are also shown.

The Port and Docks property is partly shown by a yellow outline.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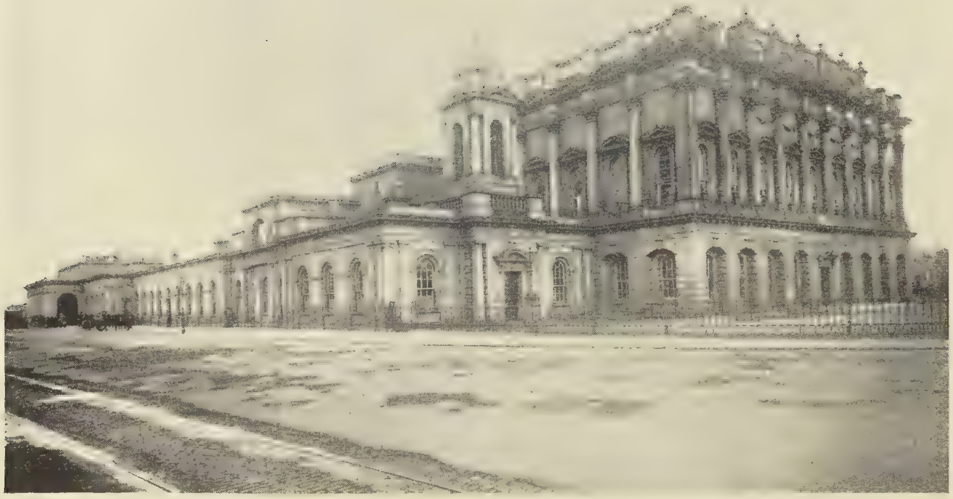

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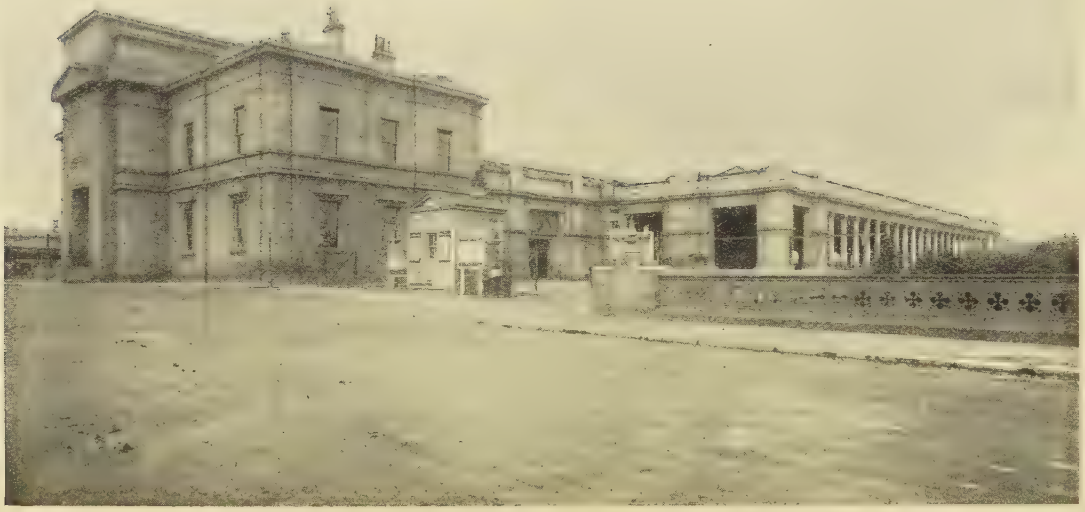
The Kingsbridge Station.



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The Broadstone Station.

VII.—TRAFFIC.

The problem of the transport of goods and passengers is an increasing one in most cities. The object is to get goods to market, or to the port as quickly and cheaply as possible; to get people to and from their homes as quickly and pleasantly as possible, and to do both these things without destroying the amenities of the city. The solution involves new or improved lines of communication, the linking up of railway termini, and the improvement of harbour approaches. It also involves improved forms of passenger locomotion serving wider areas. It further involves the elimination of causes of congestion at particular points within the city area. The volume of traffic in cities will be great in any case, but it can be reduced by good distribution, by decentralisation, and by localising the life of the people. As an invariable rule the density of population coincides with the intensity of traffic.

Many British and American cities are at present greatly concerned over their traffic problems, and in Dublin also the problem is looming large in the same way. The congestion in our capital is already quite noticeable, and is principally due to the want of a new traffic centre further westward. A reference to the maps accompanying this survey will show that the bulk of the traffic passes through the city in a half circle instead of by direct radial routes with distribution at a natural traffic centre. Dublin is likely to become more and more a distributing centre for agricultural produce, and at the same time develop again as an administrative and educational focus for the whole Free State. The probable industrial development is also a factor to be reckoned with.

In Great Britain several cities in recent years have been making a traffic census. The London Traffic Branch of the Board of Trade issued a voluminous report in 1912. A London Traffic Bill is now pending in the British Parliament, and it is believed that only legislation will help matters. The solutions suggested are street widenings, wherever possible; alternative routes; diversion of slow traffic to side streets, and one-way traffic streets. The Ministry of Transport has devised regulations for the preparation of a traffic census, and the calculation is by weights dealing with all types of vehicles. By this means traffic statistics for all districts are made on the same basis, and are, therefore, comparable, which would not be the case when merely the number of vehicles was counted. Information of this kind is also necessary if street paving problems are to be dealt with on a scientific basis.

During August, 1922, the Ministry of Transport in England conducted the first Traffic Census taken on main roads, which covered total distances of 22,000 miles. The census was taken to show the main current of the vehicular movement, not to show points of congestion. The count was taken for seven consecutive days for sixteen hours per day, and the traffic unit adopted was the ton per day.

A disadvantage of congestion in the traffic of to-day is the damage caused by vibration in buildings, especially in narrow streets, by the ever-increasing weight of motor traffic. In old cities like Dublin this is a serious consideration, and even now there are many narrow streets unsafe for heavy motor traffic.

Tramways in most cities are a serious interference with ordinary traffic, and the overhead wires and multiplicity of poles are a disfigurement. In some English cities the trackless trolley 'bus long ago superseded trams. The use of the motor 'bus is also becoming widespread, following the examples of London, Stockholm, and Paris. A later development is the "one-man" 'bus, which is a very useful vehicle for providing transport facilities in areas where the larger type of vehicle would prove unremunerative.

TRAFFIC OBSTRUCTIONS.

From time to time considerable obstruction is caused to both pedestrian and vehicular traffic by street repairs. Over this, as matters stand at present, the Police have little or no jurisdiction. When such obstruction occurs, the Police endeavour to assist the public as far as possible under the circumstances, and they are seldom or never facilitated to any extent by the road repairs. In the city the street repairs are all done by day, except on urgent occasions, such as the bursting of a gas or water main, when the work is undertaken by night, if necessary. The overlapping of the several departments having the apparent right to open up sections of the roadway for repairs, laying tram rails, gas, and water mains, electric and telephone cables, and so forth, frequently causes prolonged obstruction; one department completing its work, only to be followed by another, which may open up the same section of the road. Thus, the Tramway Company, the Waterworks department, the Gas Company or Telephone department, each operates separately, causing great inconvenience and obstruction. The workmen employed by the several departments, having the right to open the street for repairs or other purposes, often show a total disregard for the inconvenience they cause, and seldom take steps to minimise obstructions; little discretion is exercised, or economy of space studied, in stacking or storing the material in use on the work, and often when a slight re-arrangement of the material would minimise the obstruction, the foreman or responsible person seems reluctant to adopt the suggestion whereby more roadway would be available for traffic.

The aim of all departments having authority to open the street for repairs or other purposes should be to see that as far as possible there is no overlapping or second opening.

In America, regulations are in force respecting several departments which have the right to interfere with the roadway. No interference takes place without a conference of all departments interested in the control or use of the roadway. If possible, all departments concerned carry out at the same time the repairs or work required to be undertaken, and if that work interferes with the traffic, restrictions are placed on the time and period in which the work is to be done. This system is invariably adopted in the principal cities of America, with a minimum interference with traffic, even when a great portion of the roadway is taken up for repairs.

To minimise the prolonged obstruction with which the city is too familiar it is suggested that before any street or roadway be opened for repairs or any other purpose there should be a conference of all concerned, including the Chief Commissioner of Police, with a view to causing as little inconvenience or obstruction as possible.

In a report, "Tramways, Trolley Vehicles and Motor Omnibuses Compared," presented by the Chairman of the Highways Committee to the London County Council on July 15th, 1924, interesting tables are given, which have been quoted by the Manager of the Dublin United Tramways in a recent address.

The relative advantages and disadvantages of the different vehicles are summarised as follows :—

Seating Accommodation.—The tramcar has normally approximately 50 per cent. greater seating capacity than either of the alternative vehicles. In wet weather, compared with the petrol omnibus, the advantage of all seats being under cover is 200 per cent.

Speed.—The tramcar is under better control and has a higher standard of acceleration and deceleration. On the move it is capable of a higher speed than either of the alternative vehicles.

Safety.—Being confined to the rails, the tramcar is least liable to accidents, and is not liable to skidding sideways.

Cost of Operation.—The tramcar costs least per seat mile to run.

Wear and Tear of Roadway.—Practically no damage is done by the tramcar, whereas both the petrol and the trolley omnibus inflict damage out of all proportion to their contribution to the Road Fund.

Operation in Bad Weather.—Experience has proved that the tramcar can continue running in foggy or snowy weather long after the omnibus services are suspended.

Contribution to Local Rates.—Trolley and petrol omnibuses make no payments in respect of local rates for "track."

Flexibility.—The omnibus has greater flexibility, but the experience is that this advantage is least available when most required, as, for instance, in congested areas like Piccadilly Circus, the Bank and Fleet Street, the average speed is not more than six miles an hour.

From a Report of July 15th, 1924, presented to the London County Council.

(i.) *Comparative figures showing the cost per Car Mile of operating Tramcars and Trolley Omnibuses during the Year* 1922-23.

——	London County Council Tramways.	Bradford.		Leeds.		Birmingham.	
		Tramways.	Trolley Omnibuses.	Tramways.	Trolley Omnibuses.	Tramways.	Trolley Omnibuses (4 months only.)
	d.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
Income	18·54	25·982	12·992	23·367	12·754	21·155	19·254
Operating expenses—							
Traffic expenses	7·16	8·269	8·519	7·247	4·812	6·818	8·843
General expenses	1·59	2·222	1·249	2·173	1·167	2·118	2·465
Repairs and maintenance expenses ..	3·47	4·136	4·534	3·854	5·150	3·294	1·209
Power expenses	1·63	3·613	1·931	1·294	0·775	2·594	2·131
Total operating expenses ..	13·85	18·465	16·233	14·568	11·904	14·824	12·648
Surplus (+) or deficiency (—) on working	+4·69	+7·517	—3·241	+8·799	+0·850	+6·331	+6·606
Capital charges	2·70	2·615	1·371	3·145	2·052	2·729	—
Balance before providing for renewals	+1·99	+4·902	—4·612	+5·654	—1·202	+3·602	—

(ii.) *Comparative figures per Passenger carried by Tramcars and Trolley Omnibuses during the Year* 1922-23.

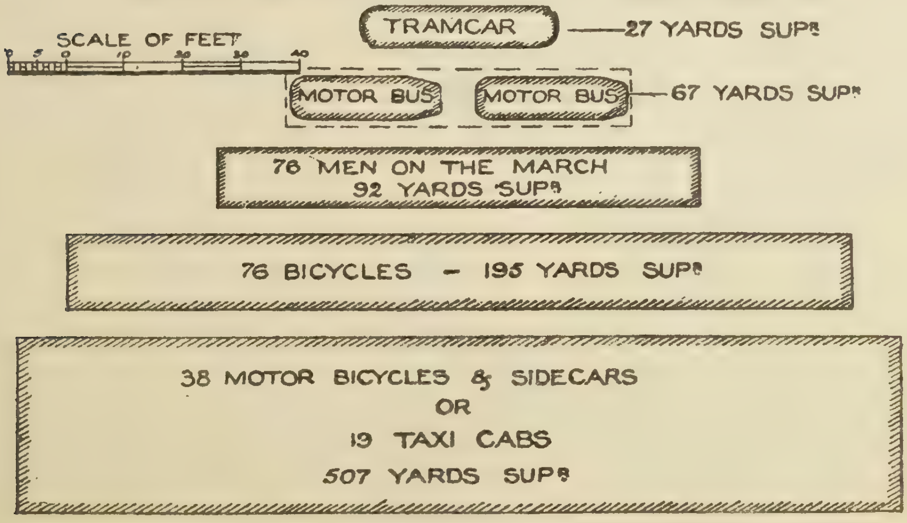
—	London County Council.	Bradford.		Birmingham.	
		Tramways.	Trolley Omnibuses.	Tramways.	Trolley Omnibuses.
Income	£4,895,605	£662,731	£21,230	£1,413,529	£8,812
Operating expenses	£3,658,472	£470,986	£26,527	£990,496	£5,789
Passengers carried	733,811,367	82,046,210	3,243,348	192,849,543	1,496,048
Income a passenger	1·60*d.*	1·94*d.*	1·57*d.*	1·76*d.*	1·41*d.*
Expenditure a passenger	1·20*d.*	1·38*d.*	1·96*d.*	1·23*d.*	·93*d.*
Surplus (+) or deficiency (—) on working	+ ·40*d.*	+ ·56*d.*	— ·39*d.*	+ ·53*d.*	+ ·48*d.*
Capital charges	·23*d.*	·19*d.*	17*d.*	·23*d.*	—
Balance before providing for renewals	+ ·17*d.*	+ ·37*d.*	— ·56*d.*	+ ·30*d.*	—

The tram standards erected on the centre of the thoroughfare in some of the most congested streets of the city cause endless inconvenience and obstruction, and some of the standards are a great source of danger to the drivers of vehicles. For instance, the standard on the east side of O'Connell Bridge has frequently caused serious collisions and accidents. If the driver of a vehicle turning from Eden Quay to the bridge happens to take a wide turn he is almost sure to collide with this standard. The standard on the thoroughfare east of the Smith O'Brien statue at the junction of D'Olier Street and the bridge is another source of great inconvenience and obstruction. The standard on the opposite side facing the entrance to Aston's Quay is also very dangerous, and the standard in D'Olier Street opposite the entrance to Fleet Street, is also the cause of much inconvenience. There are several others similarly situated, as, the standards in Upper Merrion Street, opposite the several entrances to the Government Buildings; standards on the north and west of Stephen's Green, opposite the gate entrances to several business premises, and so forth. These standards were all erected when the traffic of the city was quite different from that of to-day, and as they are erected by the authority of an Act of Parliament, and with the approval of the Board of Trade, the Police have no jurisdiction. The road space occupied by one of the Dublin standard type double truck double deck tramcars designed to seat 76 passengers under cover is 34 ft. by 7 ft. 2 inc., or 27 yards super. To carry the same number of people in buses, two vehicles, each holding 38 passengers, would be required; the space they would occupy would be 67 super. yards. The same number of men on the march would cover 92 super. yards, and if on bicycles 195 yards; while on motor bicycles with side cars the space required would be 507 super. yards, or if in taxis, nineteen of those vehicles would be necessary, occupying a similar area, *i.e.*, 507 yards. By the courtesy of Mr. G. Marshall Harriss, a comparative chart and statistics are inserted.

PLATES LIV., LV

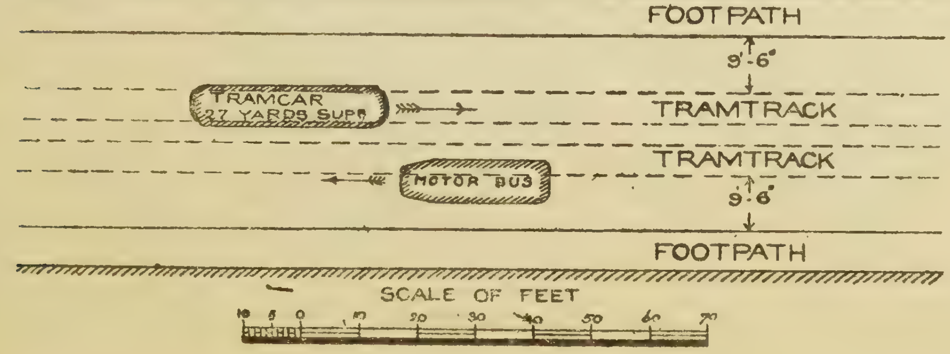
CHART

SHOWING AREA OCCUPIED BY A DOUBLE BOGIE TRAMCAR SEATING 76 PASSENGERS COMPARED WITH AREA OCCUPIED BY 76 PERSONS UNDER VARIOUS OTHER CONDITIONS.



PLAN OF ROADWAY

SHOWING AREA OCCUPIED BY A DOUBLE BOGIE TRAMCAR SEATING 76 PASSENGERS AND MOTOR BUS SEATING 38 PASSENGERS.



As in the case of the tram standards, most of the car stands of the city were established before the advent of electric tram lines, motor vehicles, and when the hack car was the fastest moving vehicle in the city. As matters now stand, having regard to the enormous increase in motor traffic, and the unsuitable place at which many of the car stands are established, a revision of the stands should be made in the near future, with a view to leaving more roadway available for traffic, especially on the leading thoroughfares. Take, for instance, Nassau Street. The car stands on this street occupy about one-fourth of the thoroughfare, and if they were not on this street a line of traffic could constantly be moving on the outward journey between the tram rails and the footway, from Dawson Street to Lincoln Place. There are several other places similarly situated, and if the traffic continues to increase as it has been doing for some time past, a revision will be unavoidable.

Hoardings erected during building operations on the footpath are also a serious cause of obstruction. Such hoardings have been allowed to stand out on important footpaths even at congested corners for a period of nearly three years. These obstructions are of course necessary occasionally, but, as matters are at present owners may obtain a licence from the Corporation for a few shillings, and there is no regulation to prevent the hoarding remaining there indefinitely. The City Architect has had this nuisance under observation for a considerable time, and has suggested that builders should be compelled to obtain licences periodically with increasing fees on a rising scale as the periods are extended.

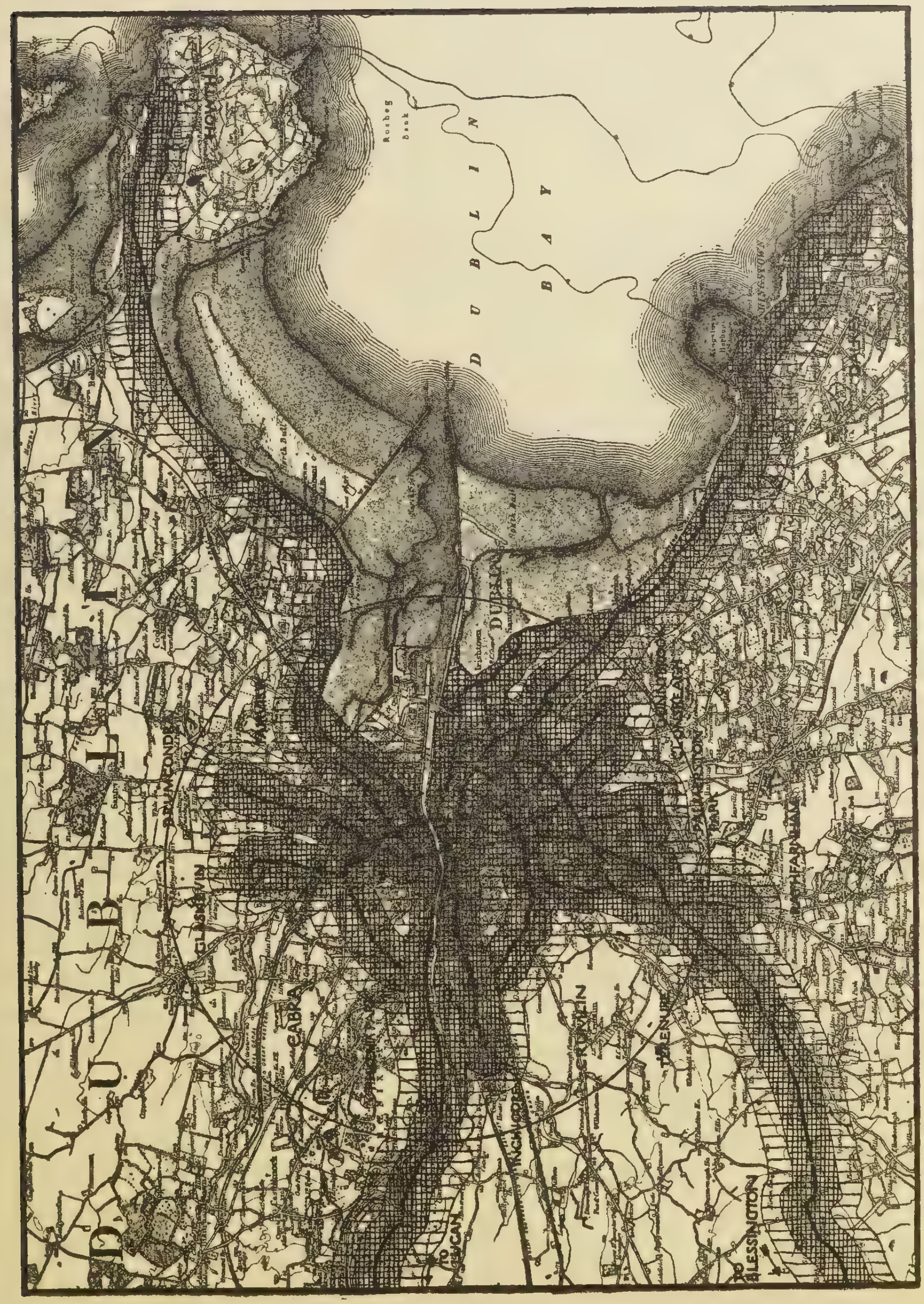
The whole Act in connection with hoardings is out-of-date, and requires revision to bring it into harmony with the procedure in other centres, where provision is made for the use of the footpath when the buildings are up to the first floor level.

EXISTING TRAFFIC FACILITIES.

The Dublin United Tramways Co., Ltd., was incorporated in 1896, and in the same year began the electrification of the existing horse tramway service. It is electrically served by the overhead trolley system. It has a large number of splendidly equipped cars. The city termini of the system are situated in O'Connell Street, north and south of the Nelson Pillar, and for the Inchicore line in College Green. There are at present more than 330 cars running over the system, covering upwards of fifty-four miles, and the company possesses works at Inchicore and Ballsbridge, where new cars are built, and old ones repaired, thereby employing large works staffs. No extensions of the existing lines have taken place in recent years, but some are under consideration. The wages and salaries bill, including all fees, reaches over £200,000 annually. The company also houses many of its employees in the suburbs in self-contained cottages, and the number of employees is about 1,200.

The hours of the day at which there is the greatest inflow and outflow of passengers are 8 a.m. to 10 a.m., and 5 p.m. to 7 p.m., respectively. In the year 1923 the average number of passengers carried per day was for ordinary week-days 237,110; for Saturdays 272,248, and for Sundays 223,140. In addition merchandise to an average of 83 tons per day was carried. Within the city and suburbs the fares are one penny per mile, and in the county Dublin one penny per $1\frac{3}{5}$ mile. The routes upon which the volume of traffic has largely increased during the last ten years are: Drumcondra, Glasnevin, Dolphin's Barn, North Circular Road, Terenure, Inchicore, and Sandymount.

PLATE LVI



An Accessibility Map of the Area.

By courtesy of] [Professor Abercrombie, Liverpool.

An improvement is needed in the speed within the city area, considerable time is lost at too frequent stopping places, and there is a great want of public shelters at important stopping places.

The table appended gives the routes, with their distance, time, and fares.

DUBLIN UNITED TRAMWAYS COMPANY.—TRAM ROUTES, Etc.

Route.	LINE.	Distance.	Time.	Full Fare.
		MILES	MINUTES	*d.*
11	Clonskeagh and Nelson Pillar	4·36	35	3
14	Dartry Road (Upper Rathmines and Finglas Road) ..	4·57	35	4
11	Clonskea and Drumcondra	4·36	35	4
22	Parkgate Street and Rathmines	4·08	34	3
7 and 8	Dalkey and Dun Laoghaire	9·10	62	6
9	Donnybrook and Phœnix Park (N.C.R.)	5·08	44	4
15	Rathmines and Terenure	3·40	27	3
18	Lansdowne Road and Kenilworth Square	2·38	22	2
16 and 17	Rathfarnham, Harold's Cross and Whitehall	6·20	44	5
19	Rialto (Dolphin's Barn) and Glasnevin	5·14	40	4
24	Parkgate Street and O'Connell Bridge	1·59	14	1½
4	Sandymount Tower and Nelson Pillar (*via* Haddington Road and Nassau Street).	3·45	27	3
23	Ballybough and Parkgate Street	2 87	25	2
21	Inchicore and College Green	3.21	24	3
5	Pembroke (Sandymount Avenue), Phœnix Park (N.C.R.) ..	4.89	40	4
12	Palmerston Park	3.23	26	3
31	Nelson Pillar and Howth	9.12	60	6
30	Dollymount and Clontarf	4.11	28	3
2 and 3	Sandymount Tower and Nelson Pillar (*via* Ringsend) ..	3.26	26	3

The Dublin and Blessington Steam Tramways Company's service has its city terminus at Terenure, adjoining the Dublin United Tramways Company's system. In the year 1923 the average number of passengers carried per day was for ordinary week-days (summer) 450; (winter) 350; for Saturdays (summer) 650, (winter) 550; and for Sundays (summer) 1,500, (winter) 900. The average quantity of goods carried per day was 7 tons, and of minerals 36 tons, and of live stock 13 head.

The fares and distances from Terenure are as follows:—

——	First Class.	Second Class.	Distance.
	s. *d.*	*s.* *d.*	MILES.
Templeogue	0 4	0 2	1¼
Tallaght	1 0	0 8	3½
Embankment	2 0	1 4	6¾
Crooksling	2 6	1 8	8½
Brittas	3 0	2 0	10

The Dublin and Lucan Electric Tramways Company has not vouchsafed any particulars for this survey.

The Dublin to Blessington and Lucan Railways are not successful, the latter having now been abandoned. The trouble with them is attributed to the fact that the districts they serve are thinly populated, and that little or no building developments followed their installation. This is largely accounted for by the fact of the comparatively isolated position of their termini, with no through-running into the centre of the city.

Motor omnibuses in private ownership now maintain a regular service between Dublin and Enniskerry, Dublin and Tallaght, Dublin and Swords, Dublin and Killester, Dublin and Lucan.

The railways having termini in Dublin are the Great Northern (Amiens Street); the Midland Great Western (Broadstone); the Great Southern and Western (Kingsbridge), and the Dublin and South-Eastern (Westland Row and Harcourt Street). The London, Midland and Scottish has a steamboat terminus at Dun Laoghaire.

The following tables show the average number of passengers carried by day into and from Dublin.

GREAT NORTHERN RAILWAY.

WEEK-DAYS.

Average number of Passengers per day conveyed into Dublin from Stations situated in the County Dublin	3,000
Average number of Passengers per day carried from Dublin to Stations in the County Dublin	3,100

SUNDAYS.

Average number of Passengers carried into Dublin from Stations situated in the County Dublin	2,500
Average number of Passengers carried from Dublin to Stations in the County Dublin	1,900

LONDON, MIDLAND AND SCOTTISH RAILWAY.

Passengers carried by Mail Steamer to and from Dun Laoghaire Pier, January and February, 1923 and 1924.

TO DUN LAOGHAIRE.

——	January.	February.	Average per Day.	
			January.	February.
1923	8,240	6,775	266	242
1924	8,742	7,613	281	262

FROM DUN LAOGHAIRE.

—	January.	February.	Average per Day.	
			January.	February.
1923	11,190	7,358	367	262
1924	11,237	8,355	360	288

PASSENGERS TO AND FROM DUN LAOGHAIRE.

July, August, September, 1923.

	To Dun Laoghaire Pier.	From Dun Laoghaire Pier.	Average per Day.	
			To	From
July, 1923 ..	27,333	24,235	881	781
August, 1923 ..	33,459	38,917	1,079	1,255
September, 1923 ..	24,379	29,324	813	977

No particulars on this matter were available from the other Railway Companies.

CANALS.

The canal system of Dublin is some of the excellent work of eighteenth century planning, but since that period the roadways alongside have become narrowed, and denuded of trees. It is a much debated point whether canals have a future as serviceable traffic routes. England, France, and Germany, however, still attach great value to inland waterways. The danger of the future for both canals and railways is the increase of motor road transport.

The proceedings of the recent Irish Canals and Waterways Commission did not furnish really helpful evidence or guidance.

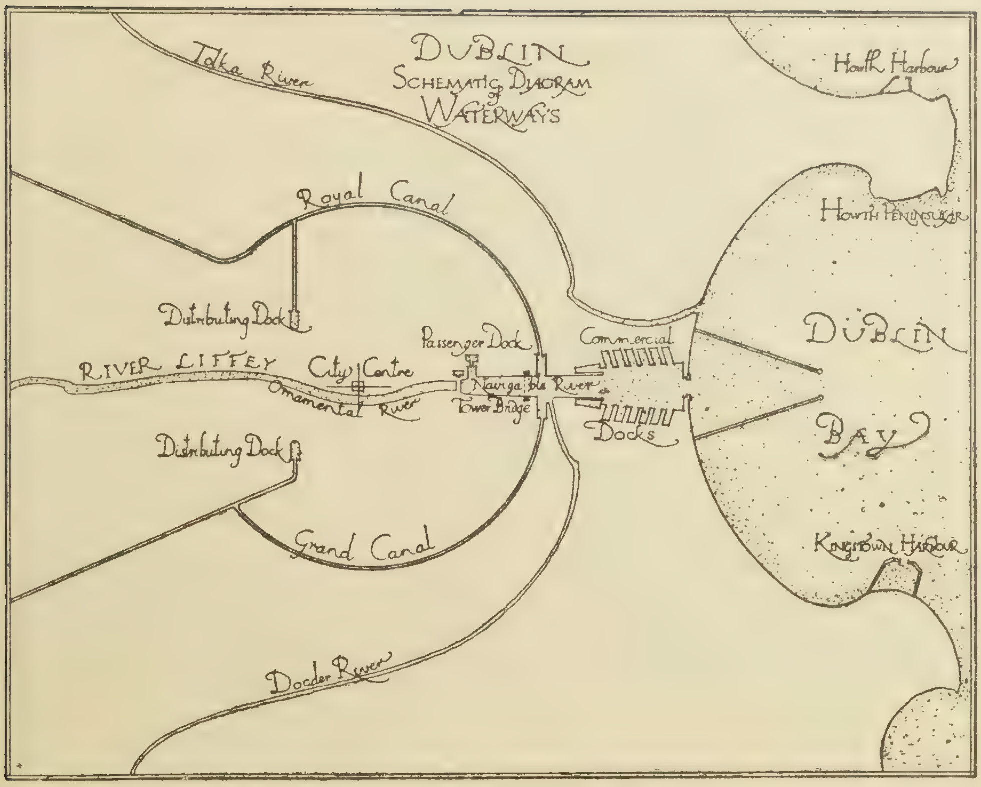
The Dublin Chamber of Commerce has given careful consideration to the matter, and its views are set out hereunder :—

CANALS.

The Chamber considers that none of the waterways of Southern Ireland should be abandoned, but that facilities for inland transport by water should be maintained and improved, as the competition of the alternative routes offered by canal transport has an influence in keeping down railway rates.

The principal improvement required appears to be in connection with dredging, so that a sufficient depth of water may be secured to enable the boats to carry larger loads than is possible at present. We cannot see that there is any case for an advance from public funds for this purpose, but if, on enquiry, it is found that the work cannot be carried out by private enterprise, the difficulty might be met by means of a Government loan to the company or companies owning the canals, subject to guarantees being provided as to the carrying out of the works.

PLATE LVII.



By courtesy of] [Professor Abercrombie, Liverpool.

The Council of the Chamber of Commerce is strongly opposed to State ownership or control of canals, believing that such Government interference is opposed to the best interests of the nation, and that the highest efficiency and economy can be secured only under a system of private ownership, which would afford full scope and opportunity for enterprise and continuous development.

We are of opinion, however, that some easily accessible central authority should be set up possessing technical and practical knowledge, which would act as an impartial tribunal in deciding matters in dispute between the owners of the waterways and the trading community using them.

The factor of speed in the conveyance of goods is an important one, especially of recent years, when the tendency on the part of provincial traders is to reduce their stocks to a minimum, only ordering a sufficient quantity of goods to keep them going from week to week. To counteract the difference in the length of time taken in transit, it is of course necessary that some inducement should be offered in the way of lower rates, if goods are to be carried on the waterways.

We suggest that the Canal Commission should consider the possibility of devising some machinery which would fix a percentage difference between the rates by canal and rail, on lines somewhat similar to the arrangement at present existing between the Grand Canal Co. and the Great Southern and Western and Midland Railway Companies. It is understood that at present the rates differ from 2½ per cent. to 15 per cent., depending on the class of goods and the locality to which they are consigned. Any such arrangement should ensure that the railway companies should not be allowed to cut rates to such an extent as would result in the closing down of the canals, and thus leave the railway companies with the monopoly of traffic. This duty might be assigned to the authority already suggested.

As a result of enquiries which we have made we find that even coal, a commodity peculiarly suitable for conveyance by water, is not now carried by canal in anything like the volume of past years. Amongst the reasons assigned for this decrease are :—

(*a*) The difficulty of screening coal into canal barges ; this is readily done in the operation of loading into railway wagons alongside the steamship ;

(*b*) The difficulty of arranging suitable return cargoes ;

(*c*) The liability to pilferage in transit, and on the exposed banks at destination ;

(*d*) The boat with crew at destination is detained until the whole cargo is unloaded ; railway wagons at destination require no attendance ;

(*e*) Coal by rail is unloaded direct into carts ; by canal it is handled twice, to the banks, and thence to the carts ;

(*f*) The growing tendency to order small quantities to meet immediate needs ;

(*g*) Convenience and economy of mechanical road transport for distances up to, say, 40 miles.

The last reason is an important one, and of course applies to many other commodities.

The Council is in substantial agreement with the " Conclusions and Recommendations " (Part VIII) of the Royal Commission on Canals and Waterways, 1906–11. We have in Ireland but few inland manufacturing and industrial centres, and in the absence of mineral and heavy traffic the bulk of the traffic to be carried is, and must continue to be, relatively small. In view of these facts, we consider it would be unwise to embark on any project, such as the enlargement of the existing waterways throughout their length, which would involve heavy capital expenditure.

The Grand Canal Company are stated to carry on their system an average quantity of 550 tons of merchandise per day.

MOTOR TRAFFIC VERSUS *HORSE TRAFFIC.*

It has not been found possible to provide figures in this survey dealing with the comparative development during the last ten years in Dublin of motor traffic *versus* horse traffic. Ten years ago traffic in the city in its volume in the main thoroughfares did not attract the attention it does now, and no census was prepared by the police until November, 1923. It must, however, be evident to all citizens that the proportion of motor traffic is greatly on the increase, but this does not necessarily imply a considerable diminution of horse traffic of former years.

According to police returns for the Dublin Metropolitan Police area, the number of motor cars registered (approximately) in the year 1914 was 5,000, and the actual number in the year 1923, 11,315. For the same years the number of job carriages licensed for public hire as against the number of taxis was 150-142 and 125-397. During that period also there has been a decrease of 25 per cent. in the number of hackney vehicles plying for hire.

It has been shown that in the city of Sheffield, with a population that is comparable with that of Dublin, in a traffic census of 1914, horse traffic represented 63 per cent. of the total, and in a census of 1924, this traffic amounts to less than 25 per cent. In New York city in the year 1916 there was one motor vehicle to forty-five persons, which in 1923 has been reduced to sixteen persons, and is steadily decreasing.

TRAFFIC CONGESTION.

That Dublin is approaching a period of serious traffic congestion is apparent to many observers. The advent of high-speed vehicles is largely responsible for this state of things, but the chief cause is the tramway system, for the trams are very large vehicles, and of necessity they must move slowly in narrow thoroughfares, and in addition they must drop passengers and pick them up in the middle of the road. For these reasons tramways are given the highest obstruction unit among all classes of vehicles.

It is realised elsewhere that ultimate relief from the immediate effects of local congestion in streets is town-planning, as one of the causes of this congestion is the defective circulation of traffic around the congested areas. A temporary relief is the classifying of certain streets as one-way streets, and the segregation of various types of traffic so as to give freer movement to those remaining. There is a feeling among merchants that congestion of traffic on the streets in which they do business is an asset to them, but the average motorist should prefer to do business at points which he can reach without getting into traffic jams.

Dublin is in immediate need of a new traffic centre, which should be situated at the focus of the existing arterial routes, and by which all through traffic might be carried as well as the developed traffic of the existing inner circumferential routes. These last should act as bye-passes to the central congested area.

The normal causes of congestion in Dublin as elsewhere may be set out as follows:—narrow streets inherited from former times or wider streets with bottle-neck entrances; the inadequacy of arterial thoroughfares; the lack of preventive means on a comprehensive plan.

The manner in which traffic congestion affects the occurrence of street accidents may be judged by the facts that in Dublin within the Metropolitan Police area there were, in 1923, 478 street accidents, within a similar area in London in the same year, 27,469, and similarly in Paris 109,425. Accidents arising from children making the public street a playground are not included in the latter, but in Dublin it is a common occurrence often referred to in coroners' courts, and it arises partly from congestion in conditions of living, and partly from the absence of recreation spaces. In London and Paris the figures given are the result of pure traffic congestion, and are contributed to in the latter case by excessive speed.

In New York and environs it is interesting to note that in the same year there were 2,030 deaths from traffic accidents, and the death-rate from this source was five times as large as that from typhoid fever.

With the increasing congestion at various points in Dublin the number of accidents is bound to increase largely, although the present speed is far from excessive. In London five years previous to 1923, *i.e.* in 1918, the number was 16,226. It is admitted that the congestion of traffic in the London streets has become intolerable. The pedestrian surface traffic in that city is greatly relieved by the Tube system, which carries on an average 7,000,000 passengers a day, yet there is footway congestion.

This section of the survey has been provided with two traffic maps, one on a scale of 6 inches to the mile, and the other (central city area) on a scale of 25 inches to the mile. The latter map illustrates the volume of central traffic on main routes in varying density for vehicular (grey tint) and tram (red tint), and railway (blue tint) traffic, calculated according to units of obstruction, and based upon the scale of units used by the London Traffic Branch of the Board of Trade. The wider the tint the greater number of units represented. The scale is 10 feet to one unit per hour, and the map shows the density at the peak load for tram traffic.

The following is the classification of the traffic used on the 25-inch map, and the value of each vehicle in units of obstruction :—

VEHICLES.	UNIT VALUES.	VEHICLES.	UNIT VALUES.
Push Bicycles	·50	*Four-wheel Cars ..	2·
Motor Cycles	·75	Heavy Motors ..	4·
*Two-wheel Cars ..	1·	Steam Lorries ..	5·
Motor Cars	1·	Trams	10·
Light Motors	2·		

* These are horse-drawn vehicles, all others being mechanically propelled.

No account is taken of horses, cattle, sheep and pigs or handcarts and barrows.

According to a traffic census taken by the Dublin Metropolitan Police within the central city area in November, 1923, the following points of congestion, with the number of vehicles passing during ten hours, were noted :—

	VEHICLES
Junction of O'Connell Street and Abbey Street	18,637
O'Connell Bridge, north side	14,511
O'Connell Bridge, south side	18,245
Junction of D'Olier Street and College Street	7,428
College Green	16,396
Junction of Nassau Street and Grafton Street	11,380
Junction of Dame Street and Trinity Street	8,346
Junction of Dame Street and South Great George's Street	8,442
Junction of Dame Street and Exchange Court	5,239
Junction of Stephen's Green and York Street	6,819
Junction of Stephen's Green and Hume Street	3,396
Junction of Nassau Street and Lincoln Place	4,879

It will be noted from these statistics that the vehicular traffic at the junction of Dame

Street and Trinity Street is almost as great as at the junction of Dame Street and South Great George's Street, also that the traffic towards the middle of O'Connell Street is the heaviest in the city.

Points of Congested Pedestrian Traffic.

Place	Width of Footpath	Average per Hour	Peak Load
	Feet		
Henry Street and O'Connell Street, south corner	20	3,940	4,500
Mary Street and Capel Street, north side	10	1,240	4,680
Mary Street and Capel Street, south side	10	1,540	2,880
Dame Street between Castle and Parliament Street, Mason's corner	9	2,193	2,945
South Great George's Street, opposite City Markets	12	3,969	6,300
South Great George's Street, outside Holmes'	9	7,849	13,680
Grafton Street, opposite Cook's (from Trinity College)	12	953	1,964
Nassau Street, at Kidd's (College side)	8	961	2,025
Earl Street and O'Connell Street corner	13	5,063	6,300

In order to get an approximate number of pedestrians passing the above points per hour, which, from a general observation of the Police authorities are considered congested, it was decided to take a series of photographs at as many of these points as possible, over a period ranging from 4 to 6.30 p.m. From the numbers of pedestrians appearing on the photographs taken in conjunction with time and the space covered, it was possible to get an average of pedestrians passing the particular point. The above figures show the points at which these photographs were taken, and the results obtained from them.

Radial and Circumferential Routes.

The provision for road traffic, radial and circumferential, within the municipal area and its immediate environment is ample, but requires re-arrangement so as to link up properly areas that are neglected and segregated.

By courtesy of the city engineer of Dublin a table is appended showing the total length within the city area of main routes to be 41 miles. The widest and narrowest points, with actual dimensions of the carriage way, are also indicated :—

ROUTES.

No.		
1	Chapelizod Bridge to North Wall	Radial.
2	Kingsbridge to end of South Wall	"
3	Blackhall Place to Old Cabra Road	"
4	Infirmary Road to Seville Place	Circumferential.
5	Church Street to Finglas Road	Radial.
6	Capel Street to Drumcondra Road, Lower	"
7	Nelson's Pillar to Donnycarney Bridge	"
8	D'Olier Street to end of Frederick Street, North	"
9	Drimnagh Lodge to Westmoreland Street	"

ROUTES—*Continued.*

NO.		
10	Grattan Crescent to end of Inchicore Road	Radial
11	Crumlin Road to Thomas Court	„
12	St. John's Road to Mount Street Bridge	Circumferential.
13	Harold's Cross Bridge to Richmond Bridge	Radial
14	Portobello Bridge to South Great George's Street	„
15	Richmond Street, south, to Grafton Street	„
16	Charlemont Street to Charlotte Street	„
17	Lower Leeson Street to Dawson Street	„
18	Baggot Street Bridge to Merrion Row	„
19	Lower Mount Street to Nassau Street	„
20	College Street to end of Talbot Street	„
21	Merrion Street, lower, to Westland Row	„
22	Ringsend Bridge to D'Olier Street	„
23	Old Cabra Road	„
24	Botanic Road to Naul Road	„
25	Howth Road to Killester	„
26	Howth Road to Nanikin Bridge	„

WIDEST POINTS.

NO.	YARDS	
1	46	Corner of Kingsbridge.
2	33	Corner of Burgh Quay and O'Connell Bridge.
3	47	Junction of Prussia Street and Aughrim Street.
4	26	Between North Richmond Street and Summerhill Parade.
5	33	St. Vincent de Paul, opposite Lindsay Road.
6	28½	Synnott Place and Dorset Street.
7	24	Seville Place.
8	39	Opposite Old G.P.O.
9	40	Grattan Statue.
10	25⅓	Junction of St. John's Road and Inchicore Road.
11	44	Junction of S.C. Road and Dolphin's Barn.
12	46⅔	Junction of St. John's Road and Conyngham Road.
13	46⅔	Junction of New Street and Upper Kevin Street.
14	26⅔	Memorial Gate, Stephen's Green, west.
15	14	Junction of Charlemont Street and Harcourt Road.
16	22⅔	Opposite Loretto College.
17	29⅔	At Leeson Street Bridge.
18	17⅓	Centre of Merrion Street.
19	29⅓	Start of College Street.
20	26	Junction of Harcourt Place and Merrion Street, Lower.
21	16	Cabra Lodge.
22	29⅓	Opposite Police Station, Pearse Street.
23	19⅓	Near " Glenavon," Naul Road.
24	27⅓	Entrance to Howth Road.
25	32	Vernon Avenue.

NARROWEST POINTS.

NO.	YARDS	
1	5	Chapelizod Bridge.
2	7	Parliament Street and Grattan Bridge.
3	7	Entrance to Everton House, Old Cabra Road.
4	8	Cahill's, corner of Dorset Street.

NO.	YARDS.	NARROWEST POINTS—*Continued.*
5	4	Hammond Lane Corner.
6	8⅔	Trades Hall, in Capel Street.
7	7	Corner of Marlborough Street.
8	11	Top of North Frederick Street.
9	7	Kearns' Place, Old Kilmainham.
10	5⅓	Entrance to Grattan Crescent.
11	3	Eastern side of St. Catherine's Church.
12	6	Rialto Bridge.
13	4⅔	Junction of Christchurch Place and Nicholas Street.
14	7⅔	Corner of South Great George's Street.
15	6	North side of South Richmond Street, and junction of Harcourt Road.
16	7⅓	Junction of Charlotte Street and Upper Camden Street.
17	11⅓	Opposite Luran Lane.
18	8	End of Merrion Row.
19	5⅔	Butt Bridge.
20	10⅔	Entrance to Harcourt Place.
21	6	Victoria Bridge.
22	6⅔	Everton Lodge.
23	6⅔	Glenavon Bridge.
24	7*	Great Northern Railway Bridge, Clontarf.
25	6⅔	Blackbush Lane.

* Square yards.

PEMBROKE URBAN DISTRICT.

ROUTES.

RADIAL.

About Ten Miles.

NO.

1 From Mount Street Bridge, Northumberland Road, Pembroke Road, Merrion Road, to boundary near Bellevue Lane.

2 From Rathmines Boundary at Leeson Street, Waterloo Place, Morehampton Road to Donnybrook Road, Stillorgan Road.

3 Sandford Road, Clonskeagh Road, to Bridge over River Dodder.

4 Ringsend Road, Bridge Street, Thomas Street, Irishtown Road, Tritonville Road, Sandymount Road, Sandymount Green, Newgrove Avenue, Strand Road.

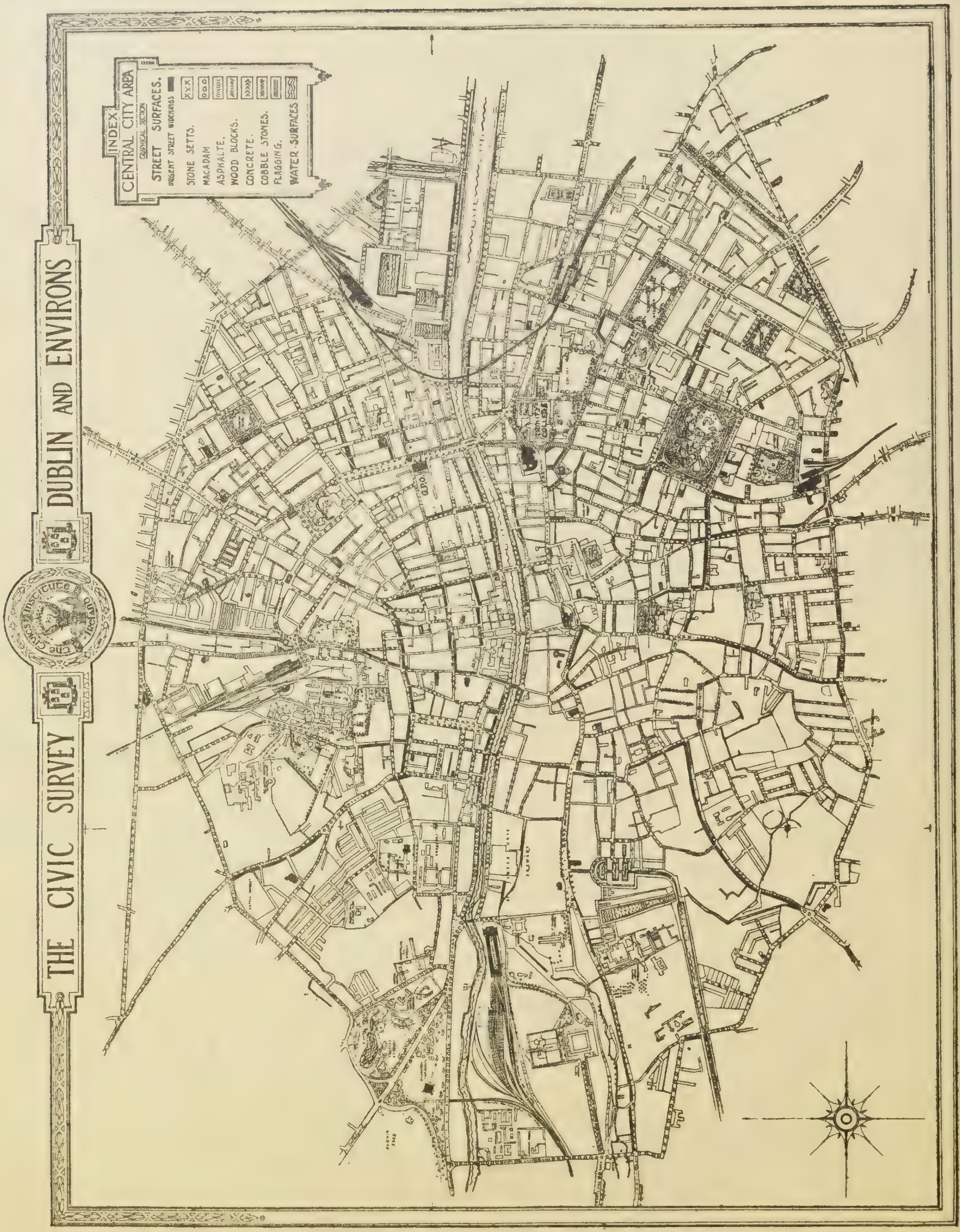
5 Grand Canal Street Bridge, Upper Grand Canal Street, Shelbourne Road, to Ballsbridge.

These widths do not include pathway.

NO.	FEET	
1	35	Near Lansdowne Lane.
	65	At west side Ballsbridge.
2	25	In Donnybrook Village (near Graveyard).
	62	Donnybrook Road at Belmont Avenue.
3	33	Opposite 1 Vergemount, Clonskeagh Road.
	19	Clonskeagh Bridge over Dodder River.
	16	Newgrove Avenue.
4	19	Ringsend Bridge.
	42	Opposite Power Station, Ringsend Road.
	52	Opposite 25 Irishtown Road.
5	28	Opposite Tramway Depot, Shelbourne Road.
	40	Upper Grand Canal Street, at corner Haddington Road.

Canal Bridge only 19 feet wide, but not within this District.

PLATE LVIII.


THE CIVIC SURVEY DUBLIN AND ENVIRONS
The Civics Institute Ireland
INDEX
CENTRAL CITY AREA
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STREET SURFACES.
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MACADAM
ASPHALTE.
WOOD BLOCKS.
CONCRETE.
COBBLE STONES.
FLAGGING.
WATER-SURFACES
TRINITY COLLEGE

RATHMINES URBAN DISTRICT COUNCIL.

ROUTES.

Radial—8¾ Miles.

- Terenure Road.
- Rathgar Road.
- Rathmines Road.
- Harold's Cross Road.
- Ranelagh Road.
- Leeson Street.
- Palmerston Road.

Narrowest Point.	FEET
Terenure Road, opposite "Stratford" ..	27
Rathgar Road, whole length	36
Rathmines Road, at Castlewood Avenue ..	32
Harold's Cross, at Leinster Road	29
Ranelagh Road, opposite "Eglinton" ..	31
Leeson Street, corner Sussex Road ..	31
Palmerston Road and Belgrave Avenue, at Belgrave Square	16

Circumferential.

- Classon's Bridge, Milltown, to Ranelagh.
- Charlemont Bridge to Parnell Bridge.
- Harold's Cross to Kimmage.
- Classon's Bridge to Rathmines, through Dartry Road.

Widest Point.	FEET
Opposite Brighton Road	36
At Rathgar Road	80
At St. Clare's Convent	75
At Mount Pleasant Square	60
Opposite No. 108	97
At Ormond Road	50

ROADS AND STREETS.

In the large area under review in this survey it is difficult to differentiate between roads and streets, as both are of great importance from the traffic standpoint. Road improvements outside the municipal area are of almost equal importance with street developments within the area.

The Free State Government early in this year has intimated to the various County Councils its immediate readiness to disburse £1,000,000 forthwith in the improvement of the classified trunk roads. So large a sum as this has never before been distributed in this country for the purpose, and it may be expected that Dublin county will not be slow to avail itself of the opportunity. The ideal road for traffic should possess the following qualities: evenness of surface; slightly resilient; with suitable camber; non-slippery; not costly in maintenance; of permanent nature, so as to obviate frequent repair, and consequent obstruction to traffic.

The streets are of first importance in a city plan. For residence, for business, and for communication between each part of the city we depend on streets. All varieties of streets have their place in a city. To design a street according to its probable use is a reasonable, but uncommon practice. The street plan of few cities approaches perfection. Many changes are constantly needed to expedite the movement of people and of goods properly.

Traffic surveys in American cities prove conclusively that horse-drawn traffic does not tend to concentrate on certain streets, and is quite indifferent to pavement surfaces or width of streets, whereas motor traffic seeks a straight and wide route, and a smooth pavement.

A map (reduced from scale—25 ins. to a mile) of the central city area is included in this survey, and indicates the nature of the present street-surfacing on all main routes in the area.

TRAFFIC MAPS.

Explanatory Note.

The scale of the original Survey Map is 6 inches to the mile.

This Map shows the general accessibility of the whole area, the red lines representing tram routes with the fare stages, blue lines, railways; and dotted red chain lines, motor omnibus routes. The green chain line indicates the 1*d.* fare stage limit. The darkest tinting in the centre represents the approximate boundary of the area reached in 10 minutes from the centre of the city, the lighter tinting 20 minutes, and the lightest 30 minutes.

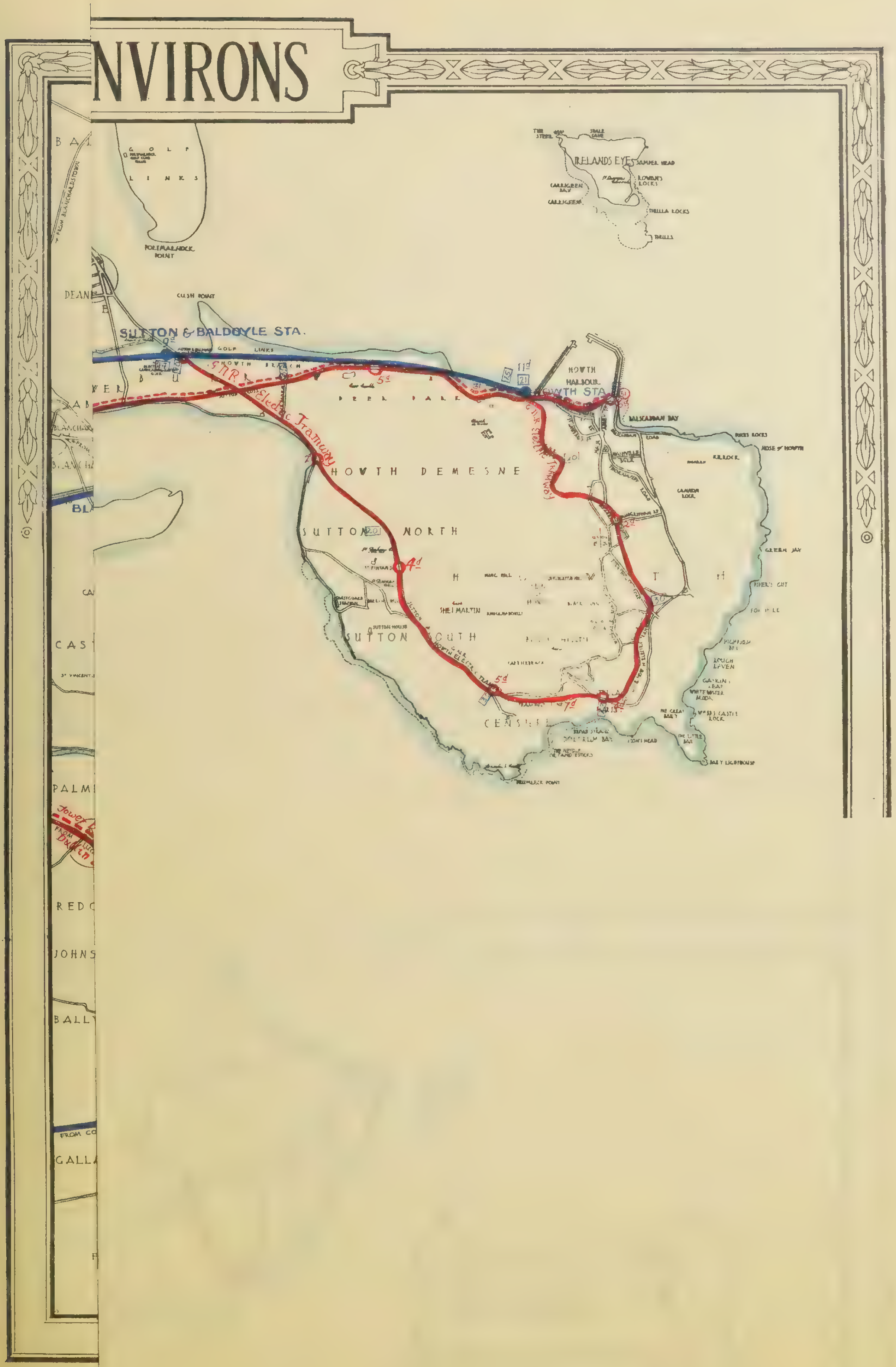
It can be seen from this Map what areas of the city and suburbs are inaccessible by any existing transport system.

The scale of the original Survey Map is 25 inches to the mile.

This Map shows traffic density in the central area. The density is based on the Census taken by the Chief Commissioner of Police at the end of 1923. The class of vehicles were then separated into standard units of obstruction with the result which appears on the Map.

The red tint represents tram density, the grey tint ordinary vehicular traffic density, and the blue shows the density of traffic at the railway stations.

Blue stars indicate points of congestion of vehicular traffic. Traffic in Dublin travels largely in a semi-circle, for want of a geographical traffic centre, and there is, therefore, no opportunity for a direct public transport system from the north side of the city to the south, thus causing waste of time and further congestion.


NVIRONS
IRELANDS EYE
THE STEEPLE
CARRIGEEN BAY
THULLA ROCKS
GOLF LINKS
PORTMARNOCK POINT
CUSH POINT
SUTTON & BALDOYLE STA.
HOWTH BEACH
G.N.R.
Electric Tramway
DEER PARK
HOWTH HARBOUR
HOWTH STA.
BALSCADDAN BAY
NOSE OF HOWTH
HOWTH DEMESNE
SUTTON NORTH
SUTTON SOUTH
SHIELMARTIN
G.N.R. Electric Tramway
CENSURE
BAILY LIGHTHOUSE
GREEN BAY
LOUGH LEVEN
DEANE
BLANCHARDSTOWN
FROM BLANCHARDSTOWN
CASTLE
PALME
Tower
REDC
JOHNS
BALLY
FROM CO
GALLA
4d
5d
7d
2d
11d
21

GEOLOGICAL AND CONTOUR MAP.

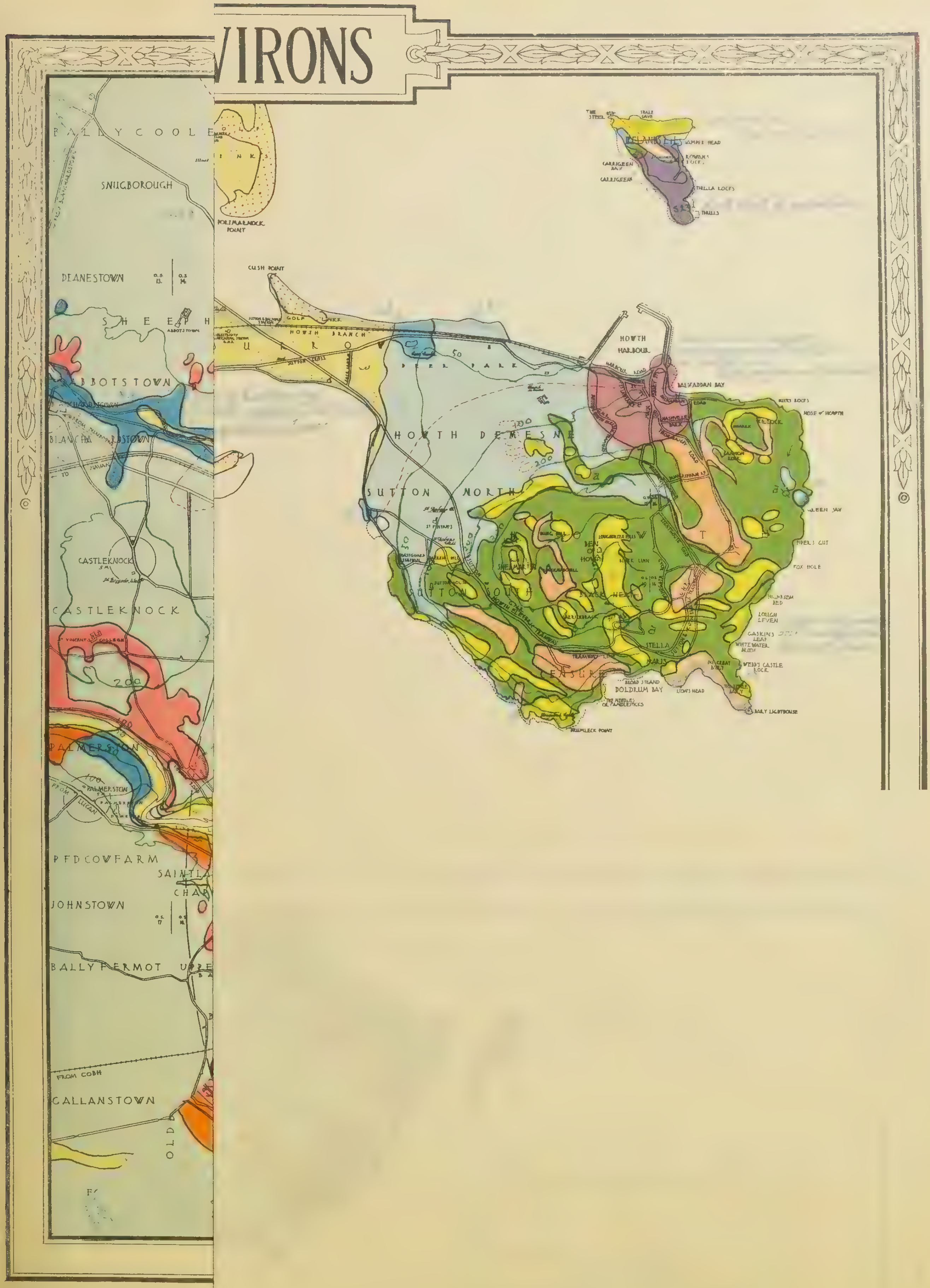
Explanatory Note.

The scale of the original Survey Map is 6 inches to the mile.

By the courtesy of the Geological Survey all particulars relating to Geology have been recorded on the Geological Map of the Dublin Civic Survey.

The following explain the colours used for different formations :—

Sandy hillock	Pale yellow, red spots.
Intake-made ground	Strong yellow, blue marks.
Alluvian silky or loamy river and flats	Strong yellow, blue marks.
Raised beach, pebbly sand flats	Strong yellow, red spots.
River gravel. Terrus loam or gravel	Orange, blue markings.
Late Glacial flood gravel	Yellow.
Sand and gravel mounds and eskers (dry stone, loam or gravel, hill limestone)	Pink.
Sand and gravel boulder clay	Mauve.
Boulder clay containing much limestone	Blue.
Clayey drift, mainly of non-calceous material	Light brown.
Shaly limestone	Blue.
Massive limestone	Blue.
Shales and fine grits	Mauve.
Shales and grits with mica	Mauve.
Grits and shales	Green.
Pale crystalline rock granite	Brown.
Dark crystalline rock. Basaltic Andesites	White.
Contours	Green.


VIRONS
BALLYCOOLE
SNUGBOROUGH
PORTMARNOCK POINT
DEANESTOWN
ABBOTSTOWN
BLANCHARDSTOWN
CASTLEKNOCK
PALMERSTON
REDCOWFARM
JOHNSTOWN
BALLYFERMOT
FROM COBH
CALLANSTOWN
CUSH POINT
GOLF LINKS
HOWTH BRANCH
DEER PARK
HOWTH DEMESNE
SUTTON NORTH
SUTTON SOUTH
HOWTH HARBOUR
BALSCADDAN BAY
NOSE OF HOWTH
IRELAND'S EYE
THE STEEP
THULLA ROCKS
CARRIGEEN BAY
BEN OF HOWTH
GREEN BAY
PIPER'S GUT
FOX HOLE
LOUGH LEVEN
CASKINS LEAP
WHITE WATER BRACK
WEST CASTLE ROCK
DOLDRUM BAY
LION'S HEAD
BAILY LIGHTHOUSE
DRUMLECK POINT
CENSURE
STELLA
200
100
50

I.—COMPETITIVE DESIGNS.

COMPETITIVE DESIGNS SUBMITTED BY MESSRS. DONNELLY AND MOORE, DUBLIN, AND IDENTIFIED BY LETTER "A."

The drawings submitted suggest connecting up Sheriff Street on the north side of the Liffey, Great Brunswick Street on the south side.

Replacement of the existing movable Butt Bridge by a permanent structure. Henry Street is shown widened through to Mary Street.

Earl Street and Talbot Street are also shown widened as they form an important link to the heart of the city.

A new street is suggested connecting up Patrick Street with the Broadstone. The street from College Green to Cornmarket has been shown widened to eighty feet.

A *place* is shown at the junction of Nassau Street and Grafton Street, which at the present time is one of the most congested points in the city. An important widening to Steevens' Lane where the gradient is steep is also suggested.

The present docks are shown enlarged by extension of North Quay and the removal of sand ridge. New docks and warehouses and a large manufacturing district are indicated on the north-east side of the city, with branch railway lines connecting up the various wharfs.

Additional sites for public baths and washhouses at Windsor Avenue, Clontarf, and Fairbrother's Fields and North Brunswick Street inside city boundary have been suggested on map of city.

Play centres are included in the designs for lay-out of artisans' dwellings.

COMPETITIVE DESIGN SUBMITTED BY FRANK A. CUSHING SMYTH, AND IDENTIFIED BY LETTER "B."

Communications.

1. Utilization of the old Cabra Road (extended) towards Ashtown on the north-west, and Crumlin Road (extended) towards the south-west, as main lines of traffic to tie these areas to the centre of the city.

Railways.

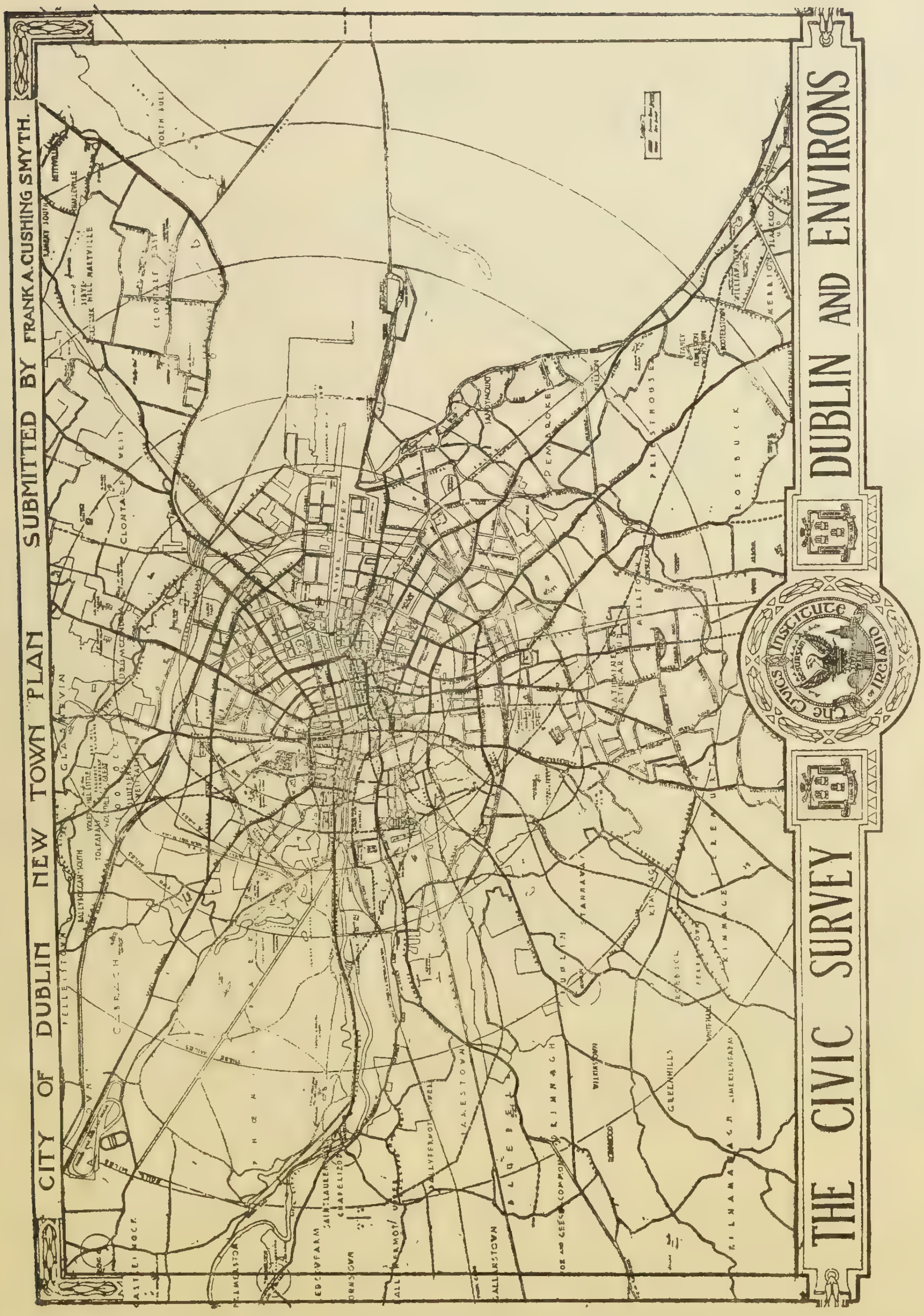
1. The electrification of the Amiens Street and North Wall Branch and extension of same along the canal as an elevated road towards the south, to make a trunk line railway serving and connecting the various terminals of the city.
2. The removal of the City of Dublin Railway as it crosses the River Liffey and the Parkway.
3. The establishment of freight stations along the canal to the south, with elevators to care for the transfer of freight from one level to the other.
4. The removal to the suburbs of the yards of the Great Southern and Western Railway.
5. The further elimination of all railway crossings at grade, especially that of the trunk-line railway across the North Strand Road.
6. The building of additional goods stations along the Alexandra Basin and the adjacent water front.
7. An extensive scheme looking toward the improvement and beautifying of squares and open spaces immediately in front of all railway stations.
8. The planting of trees and shrubs along the railway rights of way passing through the city.
9. The future placing of the tracks approaching the following terminals in subways—if this is not feasible, the electrification of the lines as they pass through the city proper: Great Northern and Western Railway; Dublin and South-Western Railway; Dublin and South-Eastern Railway.
10. The provision for additional railway facilities and goods terminals about the Alexandra Basin.

The Harbour.

1. The enlargement of the present Alexandra Basin according to the General Plan.
2. The erection of new docks and freight handling devices about this Basin.
3. The extension of the present railroad lines as shown by the General Plan to facilitate the transfer of goods.
4. The condemnation, for public recreational use, of all land immediately adjacent to Dublin Bay and the ocean front to the south.
5. The provision of a passenger pier in this Basin for use during times of low water.

Rivers and Canals.

1. The reservation of the river courses in general for park purposes.
2. The development of the shores of both the rivers and canals as shown by the accompanying cross-sections.


CITY OF DUBLIN NEW TOWN PLAN SUBMITTED BY FRANK A. CUSHING SMYTH.
THE CIVIC SURVEY DUBLIN AND ENVIRONS
The Civics Institute of Ireland

3. The confining of manufacturing interests in the case of the River Dodder to the mouth of the river.

4. The establishing of a new building line along the River Liffey.

5. The future removal of all mills and other manufacturing interests from the course of the Cammock River.

Industries.

1. The localization of factories and manufacturing in a position where (*a*) the smoke would be least objectionable; (*b*) the employees are within short radius of the mills; (*c*) the buildings are convenient to the canal systems and railroads; (*d*) access to the trunk line railway may be had.

2. The removal of factories and mills adjacent to streams, due to æsthetic reasons, and to the pollution of the water.

3. Wherever located, factories should be conveniently placed in reference to adequate supplies of raw materials.

4. Building laws strictly enforced in regard to height and general architectural similarity of factories along the River Liffey.

Workshops.

1. The grouping of workshops or other small industrial units within easy walking distance of the Workingman's Tract, preferably one of the community centres.

2. The confining of such shops in other sections of the city to sites along the canals or adjacent to railway facilities.

3. Each group of shops should have transportation facilities maintained in common, to make the necessary transfer of raw materials.

Traffic Regulation.

1. All streets in new subdivisions of the city to be preferably at approximately right angles one with the other.

2. All two-way streets to be at least thirty-two feet in width.

3. In order to avoid serious congestion in narrow streets and alleys, one-way streets are recommended.

4. The building of aisles of safety for the purpose of canalizing and directing traffic.

5. The introduction of the Rotary system of traffic control.

6. The enactment of laws preventing the parking of cars in narrow streets.

7. The removal of all unnecessary obstructions from sidewalks, especially in the business district.

Subways.

1. The placing of present surface electric tramways in subways, especially where such tracks and cars at present render traffic conditions serious.

2. The division of subway lines within the city into (*a*) passenger, and (*b*) freight.

3. The building of future freight subways connecting the various commercial districts, such as the shopping district and the water front, and additional lines between the freight terminals and goods stations.

Streets.

1. Adaptation of street lines to contours in all the newly developed sections.

2. Minimizing of actual paved area of street and widening of parking where possible.

3. The removal of all unsanitary narrow streets or alleys at the back of a lot and the utilization of the resulting area for play space or gardens.

4. Forty-foot width suggested as the minimum for factory streets, to discourage through traffic, and thus preserve the surface.

5. Strip of parking suggested between the factories and the residence area adjacent to the Workingman's Tract.

6. The widening and extension of the Old Cabra Road to Lisburn Street (extended), thus making connection with the Civic Centre.

7. The minor streets of the Institutional Tract to be made not less than fifty feet in width.

8. The extension of Dorset Street to the north-east to form the western boundary of the Institutional Tract.

9. A wider mimimum street width is recommended for the Residential Tract to the south-west.

10. The extension of Crumlin Road from the South Circular Road to St. Patrick's Street.

11. The widening and central parking of Capel Street to become the basis and axial line of the Civic Centre.

12. The widening and central parking of the North Strand Road from the Tolka Parkway to the south.

13. The widening and central parking of Great Brunswick Street to the Dodder River, as a portion of the parkway system.

14. The extension of the Herbert Park Road to the south-east through to Beechwood Road, thence to Belgrave Square.

15. The cutting through of an extension of Castlewood Avenue to Charleville Road, also on the line of the new parkway.

16. The widening and boulevarding of St. John's Street to act as the connecting link for the two parkway systems.

17. The widening of the street leading into Phœnix Park, and the introduction of statues and other features in the proposed central parking.

18. The widening so far as possible of the total street width along the River Liffey to include a wider parking strip next the river.

Street Obstructions.

1. The removal of all surface obstructions of any nature, such as poles and wires, projecting signs, etc.

2. The removal of all storage vaults or private shops from beneath the sidewalks.

3. The construction beneath the sidewalks of a large conduit to be used in common to house all wires, pipes, or other public utilities, for ease of maintenance and repair.

Tramways.

1. Relocation of many of the tramway lines. (See General Plans.)
2. Extension of present lines as demanded by the new platting.
3. Increase in the total mileage from twenty-eight miles to forty-two miles.
4. In particular, the elimination of tramway lines on Capel and Parliament Streets in the new Civic Centre.

Housing.

General recommendations (see Schedules A, B, D, E and F, pages 180, 181, 190, 192, and 194 of Cushing Smyth Report).

Tenements.

1. (*a*) The removal of all second and third class tenements; (*b*) remodelling of first class tenements; (*c*) the erection of model tenements similar to those suggested on the accompanying Housing Plans, upon sites made vacant by demolition of condemned existing structures; (*d*) no tenements as such should be permitted upon the areas of the Plan known as the Workingman's Tract to the north-west, the Residential Tract to the south-west, or the Institutional Tract to the north-east.
2. Building line in Workingman's Tract to be a minimum of thirty feet from the street line.
3. A minimum space of ten feet to be allowed between houses.
4. The reservation of a distance of forty feet at either side of the interior lot line intersections, and the utilization of this space for gardens and for recreational purposes.
5. Types of housing according to the accompanying Plans, based on the following sheet of estimates and costs (see page 190). Note the rents for the various types of housing (see page 192 of Cushing Smyth Report).
6. Construction: Buildings to be fireproof, either of brick or of reinforced concrete.

Playgrounds.

1. The development and location of playgrounds as shown by the plan and in the Workingman's Tract, and the reservation of approximately one acre for every ten of the total acreage of the tract for recreational purposes; 237 acres in 2,266·5 acres.
2. Both the head house and play areas should be under proper supervision of trained men under the direct control of the municipality.
3. Other play areas on the inside of the blocks in the Workingman's Tract in particular are to be encouraged.

Public Buildings.

1. Creation of an Institutional Tract to the north-east, and the recommendation for the gradual removal of various institutions to this tract.
2. Increased area allowed for college and university groups.
3. The development of the sites left by the demolition of these institutions to be used for park and playground purposes preferably; or as sites for model housing schemes, community centres, etc.

Metropolitan Improvements.

1. River Liffey :—(*a*) Widening of adjacent streets and erection of at least one new bridge at the crossing of the proposed parkway and the river; (*b*) building of overlooks and other focal points at the end of streets abutting on the river.

2. Public Buildings :—(*a*) The creation of a Civic Centre, including additional government and administrative buildings grouped with the Parliament Building on the south bank of the River Liffey, as shown by the General Plan; (*b*) the erection of a Music Hall and Opera House on the opposite side of the river; (*c*) the grouping of a Catholic Cathedral, a Municipal Art Gallery, and a Municipal Library about the square at the terminus of the Civic Centre, to the north; (*d*) building restrictions as to height and general architectural harmony in the various groups above suggested should be strictly observed; (*e*) the central parking along this Civic Centre to serve as a site for occasional commemorative statues.

3. The grouping of institutions and colleges to the north-east, as previously suggested.

Schools and Churches.

1. The location of schools and churches in areas easily accessible and convenient to the adjacent residential tract.

2. Provision where possible made for a municipal playground adjacent to school building.

Markets.

1. The demolition of the present building of the public market to the north of the River Liffey, shown by the plans submitted by the Board to be unsanitary.

2. The location of a new public market and abattoir as shown by the general plan, at the junction of Lisburn Street (extended) and Old Cabra Road (extended).

3. The development of this area both in relation to the produce market and a wholesale meat market.

4. A railway line to be built in a subway connecting the Broadstone terminus and the proposed site of the public markets.

Parks and Parkways.

1. Phœnix Park :—(*a*) Re-design of entrance to Park; (*b*) public gardens developed near present Zoological Gardens; (*c*) Municipal outdoor theatre to the south of the hurling grounds; (*d*) Re-design of the lines of the present drives within the Park; (*e*) Re-study on the ground of existing planting, with proper thought being given to the preservation of all natural vistas; (*f*) provision of football, hurling and polo grounds; (*g*) provision of modern golf course.

2. Parkways System :—(*a*) In general, the acquiring of river courses for parkway purposes; (*b*) the Tolka Parkway developed to the north and east; (*c*) the boulevard system developed as described by the accompanying Report; (*d*) the acquisition on the part of the city of a strip of land near the ocean front for the development of a recreation park; (*e*) the procuring of similar areas to the east and south towards Kingstown, to be for ever accessible to the public for recreation and for bathing purposes; (*f*) the widening of Annesley Road towards Howth as a tie to that area, and the addition of land to the parkway along the ocean front on Clontarf Road; (*g*) the acquisition of the Dodder River banks for a parkway; (*h*) widening, where necessary, of the roads mentioned in the Report as a basis for an inner boulevard system.

COMPETITIVE DESIGN SUBMITTED BY MESSRS. KAYE-PARRY AND ROSS, DUBLIN, AND IDENTIFIED BY LETTER "C."

The authors of the drawings were awarded a silver medal in commemoration of honourable mention of their designs submitted in competition.

Great restraint has been exercised by the authors because wholesale demolition of buildings and radical reformation of the thoroughfares would have been in their opinion a council of perfection impossible of attainment.

As regards communications : The town plan presented resolves itself to a great extent into a proposed development of the south-west area of the city. This is the oldest portion of the city, and is at present in a decaying condition owing to the existence of many slums and much poor derelict property. This scheme also includes proposals for twenty-one roads and streets as well as suggestions for the widening and improving of forty-eight existing streets and roads.

A new rail connection is suggested to the southern side of the river and the extension of the southern quay is also provided for.

Proposals are also made for additional docks.

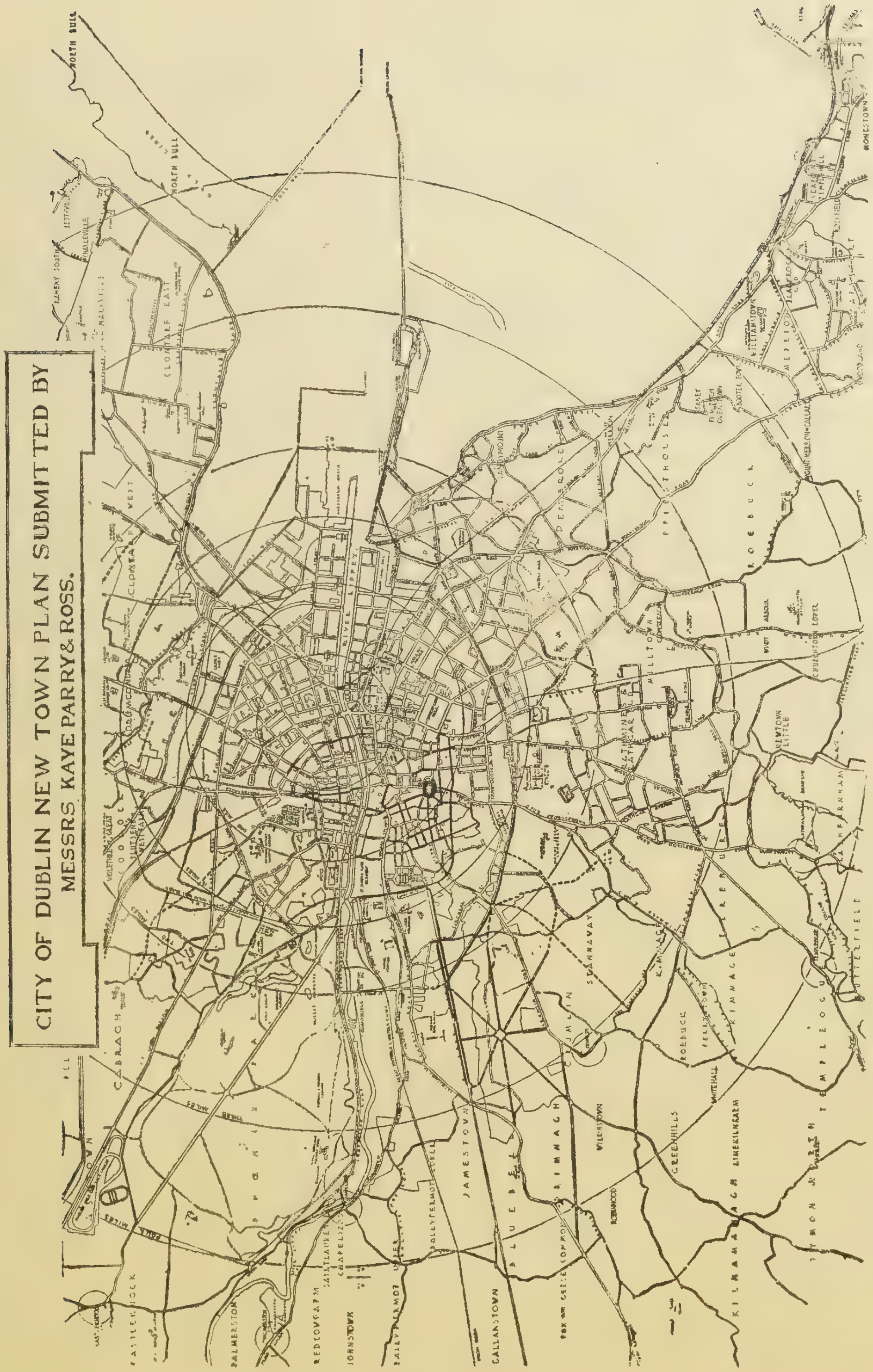
Improvements in the canal system are contemplated.

Provision is made for a very large number of working-class dwellings behind the northern quays and in the south-west Industrial Area. Particulars are furnished of twenty-nine principal local industries and their positions are indicated by numbers.

A new central highway is suggested from Dame Street to Dominick Street. This highway has been a long-felt want in the city; owing to the absence of a road bridge across the Liffey, where the passenger bridge at present exists, much traffic crossing from north to south is diverted from the direct line.

A new inner circular main thoroughfare is planned from Harcourt Street, *via* Montague Street, Long Lane and Donore Avenue, across the Canal, and then by Steevens' Lane to Kingsbridge Station.

A site is suggested for a new Roman Catholic Cathedral, and very many minor improvements are embodied in the scheme.



CITY OF DUBLIN NEW TOWN PLAN SUBMITTED BY MESSRS. KAYE PARRY & ROSS.

COMPETITIVE DESIGN SUBMITTED BY MESSRS. G. F. BECKETT AND J. A. GEOGHEGAN, DUBLIN, AND IDENTIFIED BY LETTER "D."

The authors of the design submitted suggest relieving the traffic congestion by the construction of a new street and bridge leading to Amiens Street from Kildare Street by a wide thoroughfare carried through from Patrick Street to the east of the Four Courts connecting with North King Street and Dorset Street.

Further to the west it is proposed to connect up the high ground at both sides of the river with a viaduct constructed over a railway bridge suggested at the same point.

It is proposed to dispense with the present loop line and the portions of the existing railways immediately penetrating into the city and to substitute a trough line, commencing at Blackrock on the Dublin and South-Eastern system, joining up with the Great Southern, the Midland Great Western, and finishing up by a connection with the Great Northern. This link line would be connected with a new central station situated close to the traffic centre on the line of the new thoroughfare above referred to.

It is suggested that the Liffey should be canalized from the Custom House upwards. The present line of the Grand Canal around the south side of the city would be formed into an ornamental stream and utilized as park space.

In the space the tenement houses are dealt with where suitable by the opening out of the ground at the backs by removal of walls, yards, stable buildings, etc., and laying out as recreation grounds.

It is suggested that the majority of these should be on areas outside the city proper.

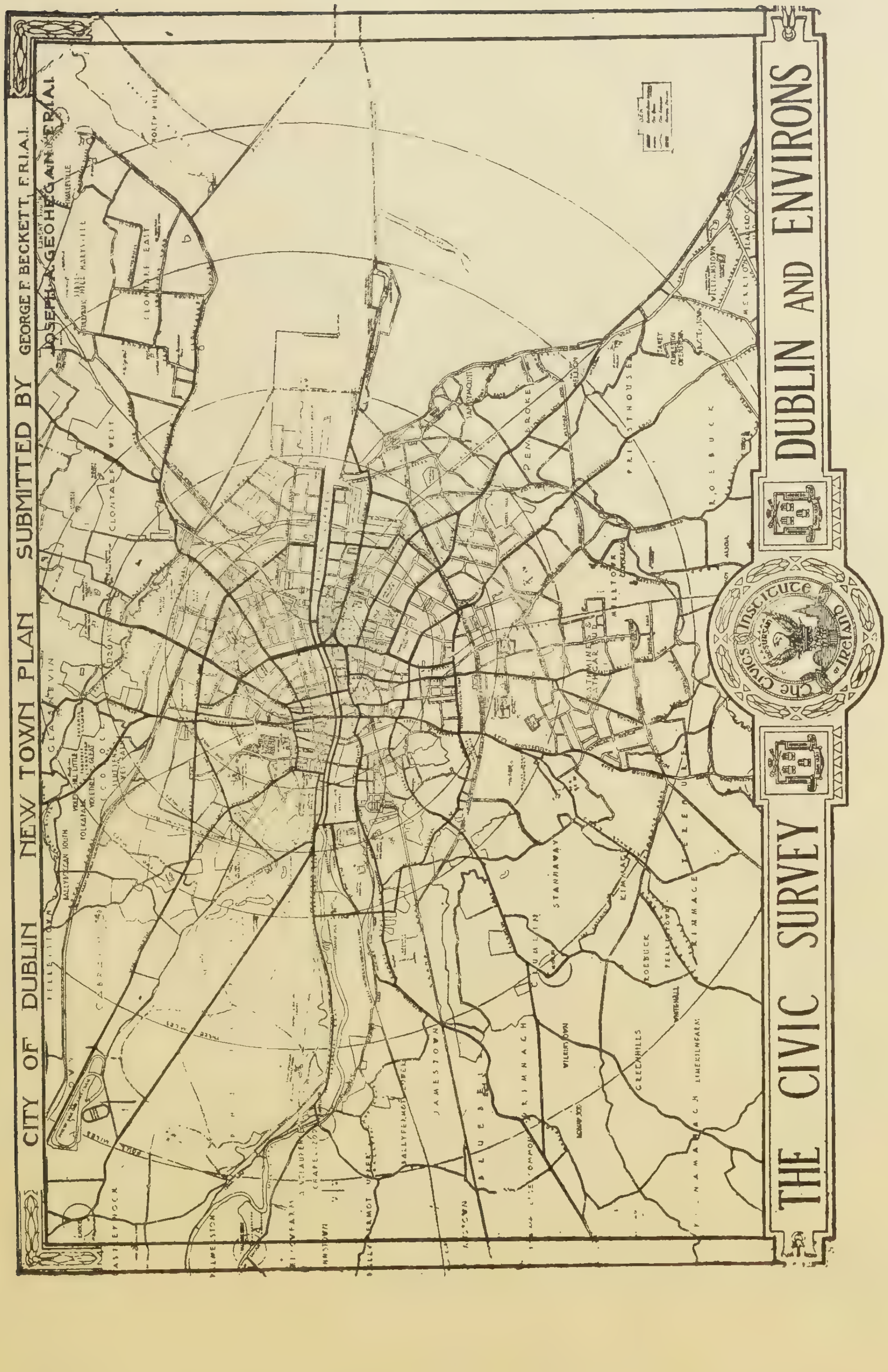
The Liffey banks within the city to some extent are treated as park land, also formal park spaces suggested at Dollymount and elsewhere.

The Catholic Cathedral is placed on a commanding site in the northern portion of the city near the confluence of the principal highways, and open to view down the full length of the new street stretching from Dominick Street to Stephen's Green.

The Modern Art Gallery is situated on the south side of the river, and immediately opposite the site there proposed for the new City Hall and Municipal Buildings.

The National Theatre and Concert Hall are placed opposite each other on the south side of the river, close to Grattan Bridge, and within easy reach of the traffic centre and railway station.

Care has been taken as far as possible to preserve the sites of antiquities and characteristic buildings of different periods.


CITY OF DUBLIN NEW TOWN PLAN SUBMITTED BY GEORGE F. BECKETT, F.R.I.A.I.
JOSEPH A. GEOHEGAN F.R.I.A.I.
THE CIVIC SURVEY DUBLIN AND ENVIRONS
The Civics Institute of Ireland

COMPETITIVE DESIGN FOR TOWN PLAN OF DUBLIN SUBMITTED BY ISAAC STEPHEN VARIAN, AND IDENTIFIED BY LETTER "E."

The author of the design submitted suggests doing as much as possible by a system of exchange, viz., by utilizing the Phœnix Park from the R.I.C. ground round the outside portion to the Park, it being old Dublin property, in exchange for city barracks such as Portobello, Ship Street, etc., and hospitals that would be better outside the city, and the buildings vacated could be used for tenements to be let out at a very low price. The same system to be carried out through other city improvements, the Vitriol Works at Annesley Bridge to be given in exchange an up-to-date works, with every possible improvement, say near Messrs. Goulding's.

All the proposals rest on a centre-line of river and canal from Chapelizod to the sea on which backbone is laid a set of hairpin roads, commencing at Chapelizod, and ending at the sea at either side.

An important change arises with the carrying of Amiens Street directly into Westland Row, over a new two-storied bridge of a like architecture with the old Custom House as it existed. It is proposed that at each side of the river, from the new Custom House Bridge to Kingsbridge, a cantilever or balcony footpath be constructed with steel girders, or to use railway lines overhanging the river, thus allowing the quay roadways to be extended to the full breadth of the solid way widening the quay without narrowing the river.

COMPETITIVE DESIGN FOR TOWN PLAN OF DUBLIN, SUBMITTED BY MESSRS. J. M. BOGLE, B.E.; A. W. PANTON, M.A.; H. O. BORROUGHS, B.A.; O. NEWBOLD, C.A., AND IDENTIFIED BY LETTER "F."

The authors of this design suggest the completion and the development of inner circles of communications, and an addition of a new and larger circular avenue for the entire city.

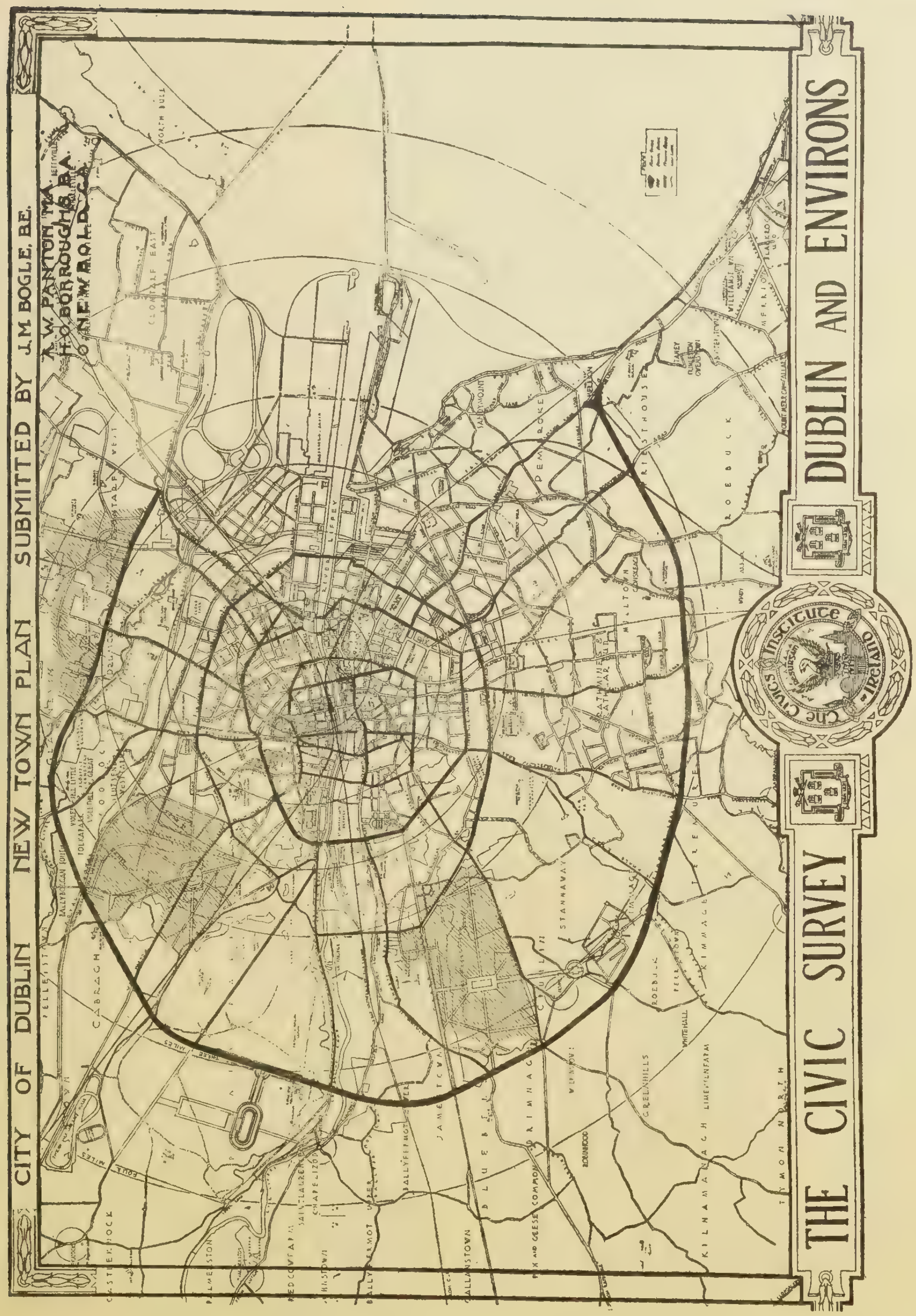
The widening and extension of Abbey Street towards a point north of the Four Courts, together with the widening of Capel Street into a boulevard from the City Hall northwards to the New Cathedral is also suggested.

The New Cathedral is placed on a site in the vicinity of the King's Inns.

New housing schemes are suggested at Cabra, Crumlin, Glasnevin, and Clontarf, together with the erection of a moderate number of three-storey flats in some central areas.

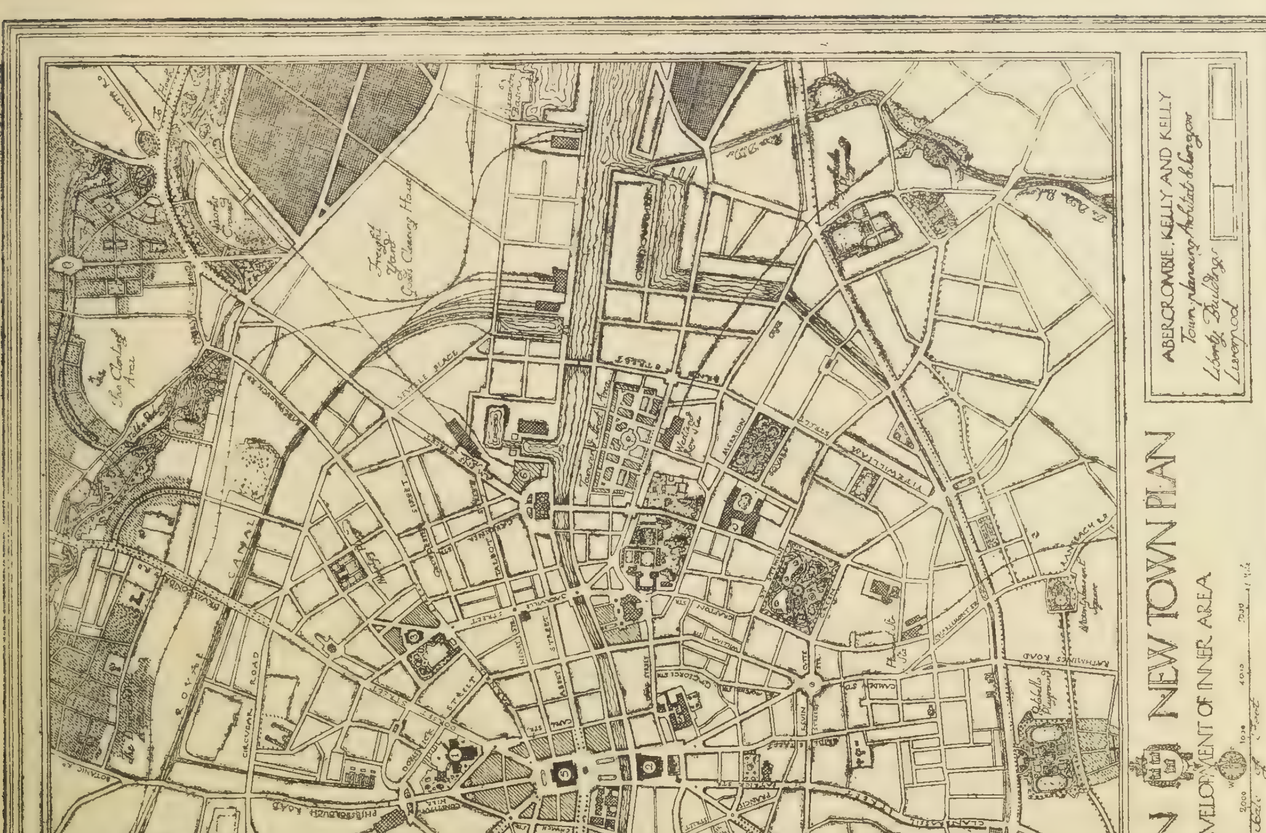
The railways are connected up to one central station, indicated in the vicinity of Capel Street and Parliament Street by loop lines running from Ashtown, Inchicore, Fairview, and by a line running from Westland Row Station.

The civic centre is not proposed by the authors.


CITY OF DUBLIN NEW TOWN PLAN SUBMITTED BY J.M. BOGLE, B.E.
A.W. PANTON, M.A.
H.O. BORROUGHS, B.A.
O. NEWBOLD, C.A.
THE CIVIC SURVEY DUBLIN AND ENVIRONS
The Civics Institute of Ireland
CLONTARF EAST
CLONTARF WEST
NORTH BULL
LIFFEY
PEMBROKE
RATHMINES
MILLTOWN
ROEBUCK
STANNAWAY
CABRAGH
CRUMLIN
DRIMNAGH
KIMMAGE
GREENHILLS
WHITEHALL
TEMPLEOGUE
CASTLEKNOCK
PALMERSTON
CHAPELIZOD
BALLYFERMOT
JAMESTOWN
GALLANSTOWN
KILNAMANAGH
TIMON NORTH

COMPETITIVE DESIGNS SUBMITTED BY PATRICK ABERCROMBIE, SYDNEY A. KELLY, AND ARTHUR KELLY, LIVERPOOL, AND IDENTIFIED BY LETTER "G."

The authors of the drawings submitted were awarded the £500 prize in connection with the Competition. A full report with descriptive drawings is to be found in Volume I. of the publications of the Civics Institute of Ireland.


CITY OF DUBLIN NEW TOWN PLAN
GENERAL DEVELOPMENT OF INNER AREA
ABERCROMBIE, KELLY AND KELLY
Town planning Architects & Surveyors
Liberty Buildings
Liverpool
REFERENCE KEY
Existing Public Buildings
Proposed Public Buildings
1 Cathedral 2 Parliament Building
3 National Theatre & Art Gallery
4 Central Station 5 Municipal Station
New Building Plots
Factory Sites
Garden Suburbs
Parks & Playgrounds
Scale of Feet
Feet 0 500 1000 2000 3000 4000 5000
ROYAL CANAL
CIRCULAR ROAD
PHIBSBOROUGH ROAD
Freight Yard
Goods Clearing House
The Cabra Area
The Crumlin Area
Marlborough Park
Kingsbridge Sta.
Phoenix Park
RATHMINES ROAD
EMMET ROAD

COMPETITIVE DESIGN SUBMITTED BY MESSRS. ASHBEE AND CHETTLE (C. R. ASHBEE, F.R.I.A. ; G. H. CHETTLE) AND IDENTIFIED BY LETTER "H."

The author of the design submitted suggests the placing of the Cathedral some distance north of the present Pro-Cathedral, and north-east of the Rotunda.

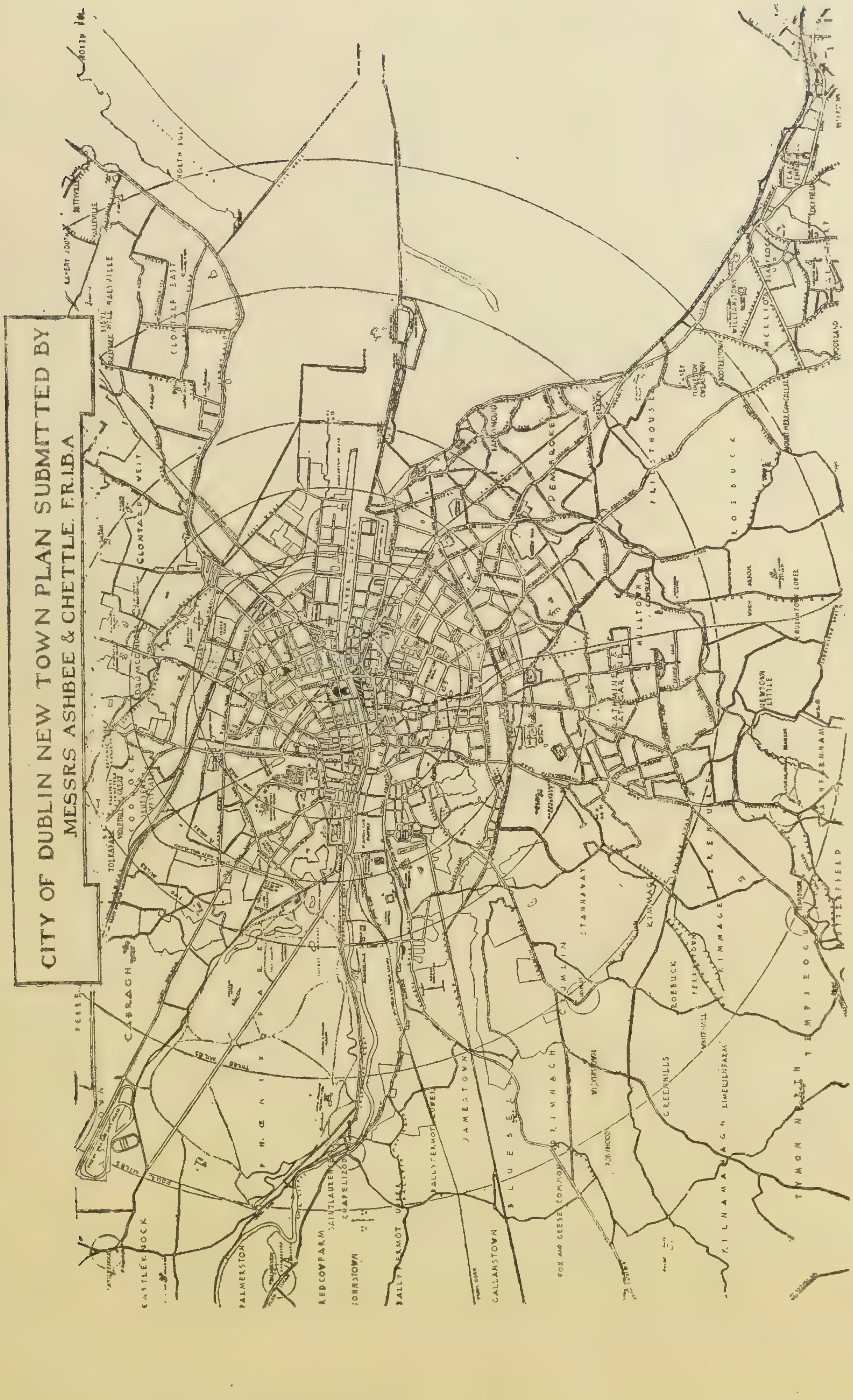
Additions are suggested to the Parliament House and extended to the river front.

The Opera House is placed in the vicinity of O'Connell Bridge.

The city is linked up by five main approaches :—Kingsland Road, Harcourt Road, Amiens Street, Broadstone, and Kingsbridge Station.

Open spaces are provided in the vicinity of the Custom House, the Four Courts, Cathedral, Castle, etc.

A civic centre is not proposed by the author.


CITY OF DUBLIN NEW TOWN PLAN SUBMITTED BY
MESSRS ASHBEE & CHETTLE. F.R.I.B.A.
CLONTARF
CABRAGH
CASTLEKNOCK
PALMERSTON
REDCOWFARM
JOHNSTOWN
CHAPELIZOD
JAMESTOWN
CALLANSTOWN
DRIMNAGH
GREENHILLS
KIMMAGE
STANNAWAY
ROEBUCK
RATHFARNHAM
MILLTOWN
PEMBROKE
MERRION
BLACKROCK
BOOTERSTOWN
RIVER LIFFEY
THREE MILES
FOUR MILES
TYMON NORTH
BUTTERFIELD

II.—PROPOSALS OF THE GREATER DUBLIN RECONSTRUCTION MOVEMENT.

The drawings prepared by the Greater Dublin Reconstruction Movement at a subsequent date to the drawings submitted in connection with competitive drawings for the Town Planning of Dublin suggests the following :—

1. Construction of Central Station G.P.O. (in old Custom House) and Passenger Steamer Berthage on area now occupied by the Custom House Docks.

2. Extension of Gloucester Street, and general reconstruction of surrounding area.

3. Utilisation of old G.P.O. as City Hall and Municipal Offices.

4. Reconstruction of Dublin Castle and present City Hall as Courts of Justice and Government Offices.

5. Provision of site for National Cathedral on high ground facing Lord Edward Street and extending across Castle Street into the Upper Castle Yard.

6. Extension of Royal Hospital, Kilmainham, to provide accommodation for Oireachtas and certain Government offices.

7. Reconstruction of portion of destroyed Four Courts as Municipal Art Gallery, to be surrounded by public park.

8. Reclamation of 200 acres of foreshore adjoining G.N. Railway embankment and East Wall as site for :—

   (*a*) New railway sidings ;
   (*b*) New cattle market ;
   (*c*) New factories ; and
   (*d*) Additional deep water berthage.

9. Removal of D. & S.E.R Goods Depot from Harcourt Street to Ringsend.

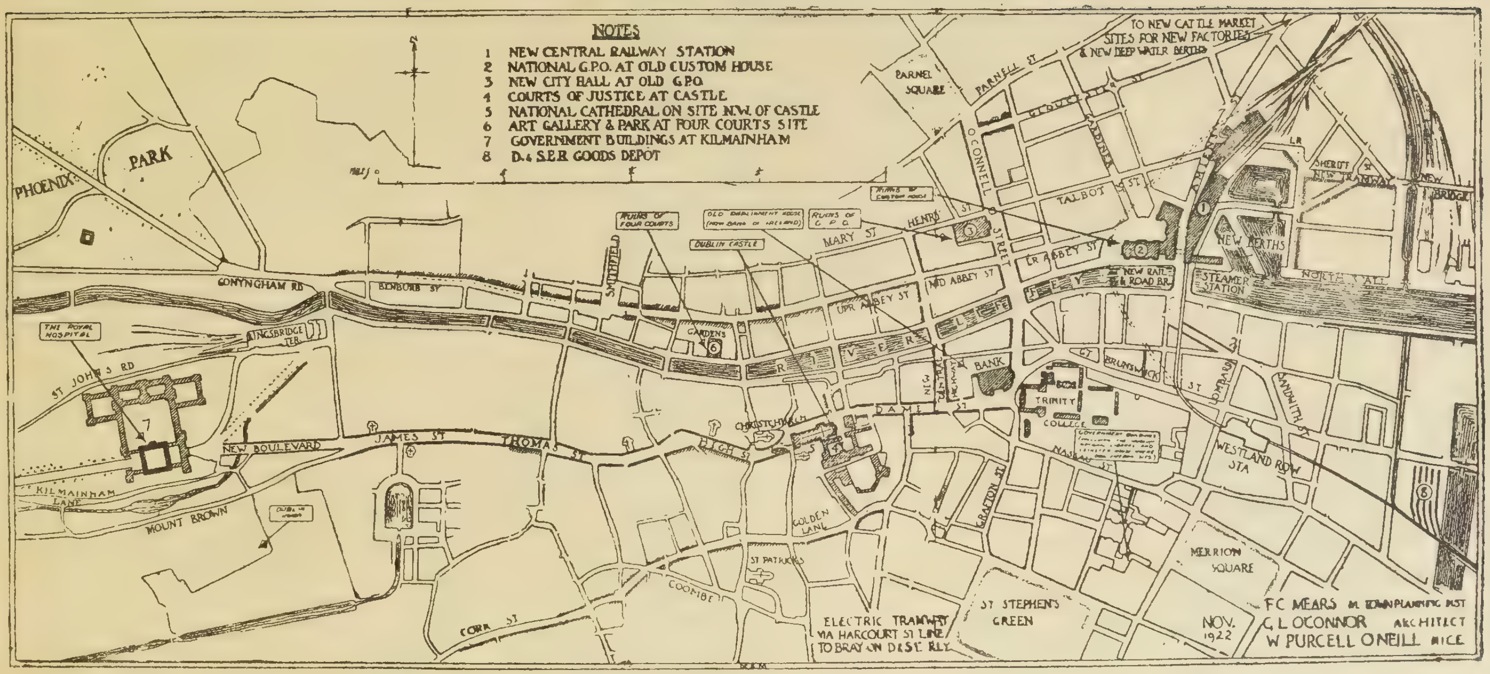
10. Conversion of D. & S.E. Railway from Harcourt Street to Bray into an extension of the Dublin Electric Tramways System.

11. Provision of railway connection on street level from new D. & S.E.R. Goods Depot to Sir John Rogerson's Quay.

12. Street widening and extensions as follows :—

   (*a*) Widening of Christ Church Place, Cornmarket, High Street and Bow Lane to form part of National Highway from O'Connell Street to Royal Hospital, Kilmainham ;

A BIRD'S-EYE VIEW OF THE GREATER DUBLIN RECONSTRUCTION PROPOSALS



(*b*) Widening of Upper Abbey Street and Mary's Abbey to back of Four Courts, and extension of new street westwards to Benburb Street.

(*c*) Widening of Upper and Lower Liffey Street (already begun) and extension southwards across new bridge to constitute new central highway from Henry Street to Dame Street.

(*d*) Widening of Upper Stephen Street and its extension through Bull Alley and other intervening streets (all of which contain either ruins or property in an advanced state of dilapidation) to junction of Cork Street and Ardee Street.

(*e*) Extension of Amiens Street southwards (between new G.P.O. and Central Station) across new bridge, and thence from junction of City Quay and Moss Street to Sandwith Street.

(*f*) Extension of Exchequer Street into Lower Castle Yard.

CONCLUSION.

The foregoing Survey endeavours to present impartially and comprehensively a picture of the fundamental facts concerning the City and Environs of Dublin. From a study of these facts it is for others to draw conclusions for future improvements. It is also hoped that the analysis offered will enable a Town Plan to be prepared for a comprehensive scheme of future development. Whatever may happen in this regard there will no longer be a necessity to prepare such projects in a blindfold manner.

The Survey has dealt with Dublin's historical development through the centuries; its premature decay; its physical beauties; its recreation and culture; its health; its disease and tenement cancer; its industry and commerce; and, lastly, its traffic.

For many centuries Dublin has been the residence of numerous notabilities, who knew it for the brief years that constituted their lives—then passed into the Great Silence.

Generation after generation has arisen to come under the spell of its glamour and magic influence. The old buildings, though voiceless, seem still to speak of the long-buried past, and to whisper tales of other times.

Go out to the fair hills that look down upon the city, gaze upon the beauty of its setting, and mark its towers and spires. Dublin is a city redolent of charm; a city of castle, sea and distant hills; a city full-charged with the glory and pathos of the past.

Let her citizens resolve that Dublin shall have a great future!

November, 1924.

DATE DUE / DATE DE RETOUR

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